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MADRAS

INFORMATION

Vol. XXI DECEMBER 1966 No. 12

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THIS MONTH'S COVER

The sounds and sights that fill the dew-soaked dawn of every day in the month of Margazhi (December-January) provide a link with a past which is very much alive today. The temples that are alive and alit even before the birds are awake, the dutiful housewife who decorates the house-front with Kolams and pumpkin flowers and lights the brass lamp before the household Gods, the children who devoutly repeat the lilting verses of Tiruppavai and the older ones who join the bhajans that go round the streets singing songs to the time beat of cymbals and mridungam—these remind man of his duty to God and to his fellow-men. This month's cover recreates a familiar scene in Tamil Nad in the month of Margazhi.

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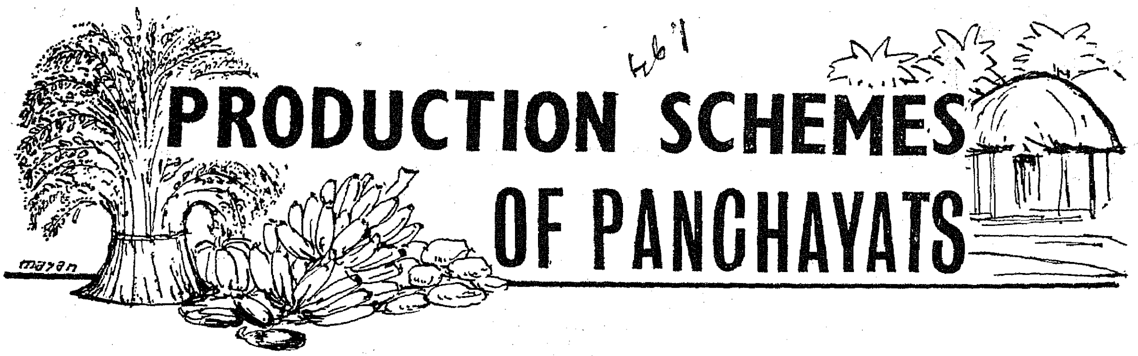


PRODUCTION SCHEMES OF PANCHAYATS

Increasing food production is one of the essential tasks which we face today. The Panchayat Institutions in this State have been entrusted with the responsibility of drafting plans for the production programmes and to implement them.

A dynamic role in the formulation of the Fourth Five-Year Plan has been assigned to the Panchayati Raj Institutions, viz., Panchayats and Panchayat Unions and District Development Councils in Madras State. In September 1965, these Panchayat Institutions were requested to prepare their own Production Plans for Agriculture, Animal Husbandry and Fisheries. A new opportunity was provided for involving them, in the process of planning, according to local requirements, and available resources in the various blocks concerned.

This new approach in planning, initiated in September 1965, has clicked. Consequently, the blocks will, not only be the agencies for implementation of the Plan, as hitherto, but also, have an active role in planning. A number of useful schemes were evolved due to the initiative of Panchayat Institutions. A few guide lines were furnished with a view to make their plans on Production Programmes more realistic and practicable. It has been clearly indicated that, "while the role of the officials should be to offer considered technical advice, there should be no attempt to stifle initiative or superimpose on the Panchayats a pre-conceived proposal ". It was expected that this new experiment would yield better results, as it sought to bring about a "hormonious blending of non-official enterprise, with official expertise, laying the foundations for building the planning edifice from below ".

Production plans

During the past few months, there has been considerable efforts and discussions in evolving the Production Plans, according to the aspirations, of Panchayat Institutions and finally, Rural Development Department has recently issued orders indicating the schemes under Agriculture and Animal Husbandry and Fisheries.

The Production Schemes of Panchayat Unions have been broadly classified under three categories, " Essential", "Optional" and "Special Schemes, specific to the area". There are eight items indicated under "Essential Schemes", 17 items under "Optional Schemes" and freedom is given to blocks to formulate their own "Special Schemes" up to Rs. 40,000. Detailed instructions for formulating the various Production Schemes, have been provided as guide lines. Scope of the Production Schemes is also outlined.

The Government will place a grant of Rs. 2 lakhs at the disposal of the each of Panchayat Union, over a period of five years, commencing from April 1, 1966, to implement the various schemes. To earn this grant, each Panchayat Union should come forward, with a matching contribution of, not less than Rs. 50,000, so that a total sum of Rs. 2,50,000 is available to each Panchayat Union to implement the Production Scheme during the Fourth Plan.

New venture

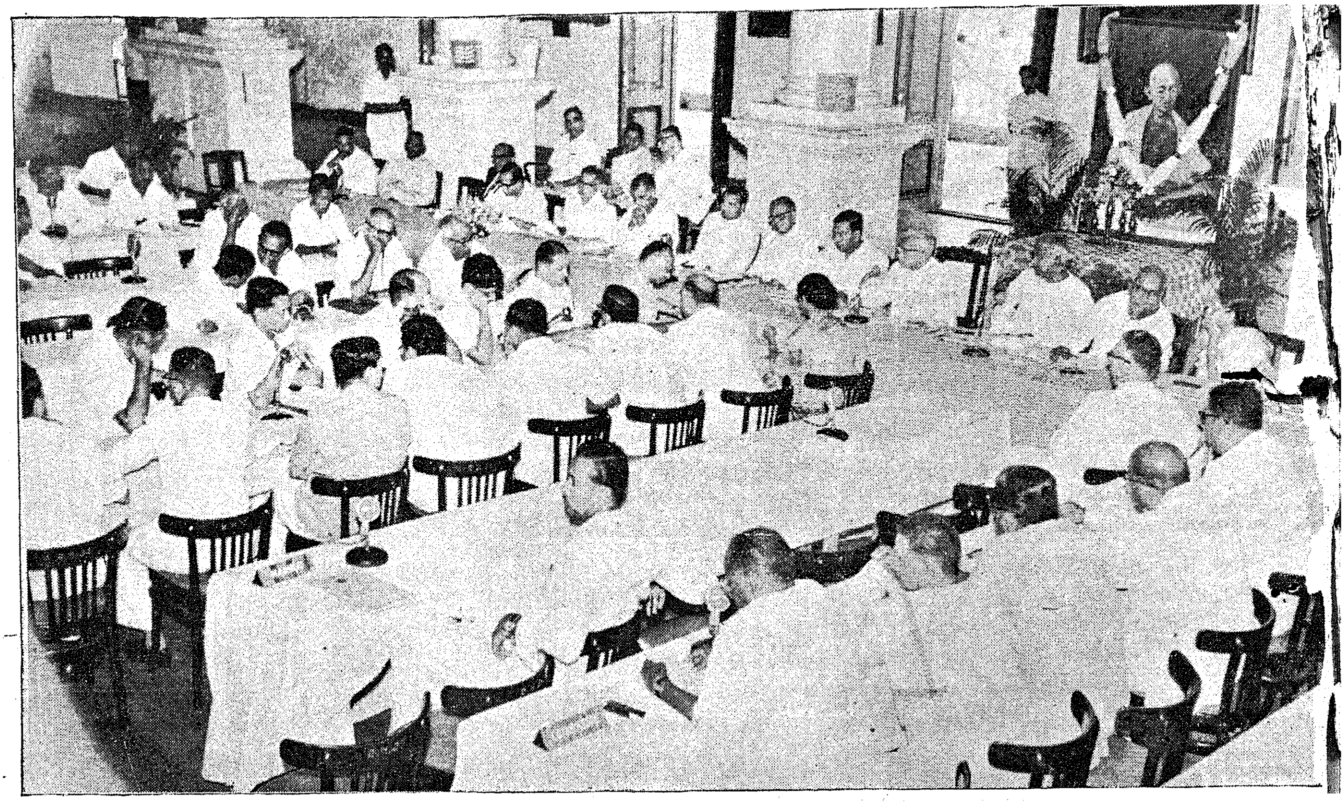
This is the very first time, when Panchayat Unions have been asked to formulate their plans for implementation during the Plan period.

It is only based on the schemes proposed by the Unions, that the present orders have been issued, with a certain amount of re-grouping, keeping in view the schemes of the State Plan and others sponsored by the Government of India.

In this order, the Panchayat Unions have been requested to draw out a Panchayat Union Production Plan, to meet their needs within the frame work of the schemes approved by the Government, which gives plenty of choice for them to formulate plans suited to their localities.

This is a new venture in programme-planning and involving the local bodies in drawing out plans and in blending the local needs and aspirations, with the overall ' plan ' objectives of the State.

During the last Plan, a uniform pattern of schemes on Agriculture, Animal Husbandry and Fisheries were attempted to be implemented by Panchayat Unions, without reference to the potentialities of the area. Amounts were ear-marked for schemes broadly for Agriculture, Animal Husbandry and Fisheries on a uniform



Sri M. Bhaktavatsalam, Chief Minister, is addressing the meeting of the Panchayat Development Consultative Committee at Rajaji Hall, Madras, on 24th October 1966.

basis. The result was that even where there was not much scope for fisheries development, the Panchayat Unions tried to implement a few schemes on fisheries, or had to allow the money to lapse. Such difficulties arose in implementing schemes on other production heads as well.

In the present plan, the Unions have been given full scope to choose schemes on Agriculture, Animal Husbandry and/or Fisheries, according to the potentialities of their tracts, without any undue restrictions. In case any particular block desires to take up more schemes on fisheries development, rather than on Animal Husbandry or Agriculture or *vice versa* they could now do so.

Under each branch of production head (i.e., Agriculture, Animal Husbandry) the Unions can select schemes suited to their locality, from out of the "Optional Schemes" suggested by Government. For "Fisheries development" the State has been divided into four categories, according to their water resources and potentiality for this work, and different sets of schemes suited to each category have been recommended, for selection and execution by the Unions.

Besides, a sum of Rs. 40,000 exclusively to be utilised for "schemes specific to the requirements of the locality" and not tied to any programme has also been set apart. For utilising this amount, the Unions have been requested to propose schemes through the Distric Development Council. Thus the Panchayat Union have wide scope to take up and implement schemes according to the scope and need of their areas. Thi is a great leap forward in democratic planning designed to meet specific local requirements.

A set of schemes categorised as "Essential scheme selected out of the schemes proposed by the Panchaya Unions, are to be implemented in all the Unions, accor ding to the present orders. Implementation of the schemes will result in uniform progress, in all blocks o certain essential works connected with the developmer of Agriculture, Animal Husbandry and Fisheries. Thu a basic minimum progress in the production field guaranteed in all blocks.

During the Third Plan, the Panchayats and Panchayat Unions were adjusting their matching contributions, as and when they undertook execution of schemes and had to maintain a complicated system of accounts to account for the public contributions, Panchayat and Panchayat Union contributions and Government Grant. This procedure has now been simplified and the Unions have been advised to remit the contributions in advance, at the rate of Rs. 2,500 in every quarter of Rs. 10,000 annually, without the necessity of contributions being made for each individual scheme, separately.

Modernising the Fishing Industry

Sri C. SUBRAMANIAM, *Union Minister for Food and Agriculture.*

The sixth meeting of the Central Board of Fisheries and the thirteenth meeting of the Central Fisheries Research Council were held at Madras from 29th October 1966. The following is the inaugural speech delivered by Sri C. Subramaniam.

The importance of fish-wealth, both as a source of supplementary food to provide the much-needed protein and as a potential foreign-exchange earner hardly needs any detailed exposition. Fish production calls for determined effort in several directions. The development of fishing industry involves the expansion of not only infra-structure facilities like communication, storage and transport but also the establishment of various inter-related industries Especially for marine fisheries, the programmes relate to the development of harbours, building of vessels. manufacture of fishery equipment for inshore and offshore fishing and an integrated programme for processing, distribution and marketing. This involves long-term planning with a proper perspective to bring about a balanced development of the different sectors of the fishing industry and the other industrial activities connected with these programmes.

During Fourth Plan

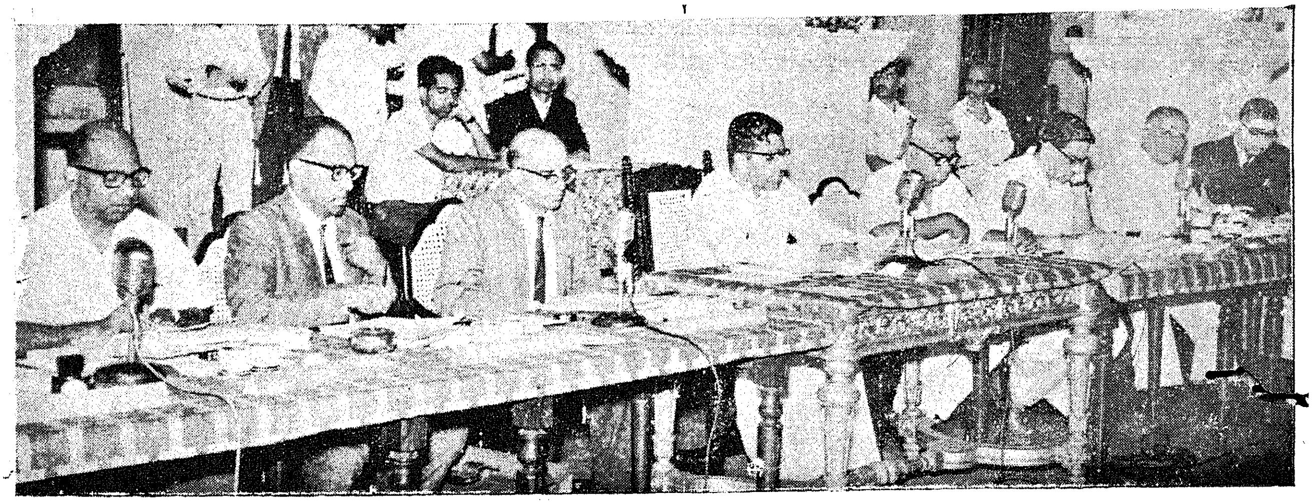
In the Fourth Five-Year Plan, it has now been proposed to provide a sum of Rs. 113 crores for the development of fisheries. This amount will have to be utilized with the object of obtaining as much fish as possible both for internal consumption and for exports. To achieve this objective, it may be necessary to lay greater emphasis on quick-yielding productive schemes and ancillary industries rather than on programmes of a longterm nature. But in this field we cannot afford to neglect the long-term requirements completely. Provision in the Plan for the production of marine fisheries is estimated to be of the order of Rs. 52 crores; inland fisheries will take an investment of about Rs. 17 crores and the remaining Rs. 44 crores will be for programmes of research, training, pilot schemes and the like.

I am glad to note that during the last year preliminary surveys have been completed in some of the major ports and in a large number of selected minor ports in the different States. I am also happy to note that the plans and estimates are ready for the major ports of Madras, Tuticorin and Mangalore and that those in respect of Bombay and Cochin likely to be ready shortl[y]. It is necessary to see that the work on fishing harbou[rs] is initiated early and completed in two or three year[s'] time, so that the additional number of mechanise[d] fishing vessels and trawlers to be introduced have prope[r] facilities for landing, processing and distribution. Thes[e] facilities will assist in the efficient handling of fish fo[r] distribution and processing on an industrial scale, leadin[g] to reduction in production costs.

Mechanisation

With the increasing tempo of mechanisation o[f] fishing crafts and the introduction of larger fishin[g] vessels by the industry, the demand for fishery equip[-]ment and fishing boats will be on the increase. Th[e] indigenous manufacturers of marine diesel engines hav[e] been progressively stepping up their capacity for deliver[y] of larger number of engines and are also taking step[s] to provide servicing facilities. These efforts will hav[e] to be stepped up further. It has also been observe[d] that the indigenous ship-builders are now taking interes[t] in the building of fishing boats. The Government ar[e] taking steps to place orders with the indigenous firm[s] for fishing boats of proven design. With regard t[o] exploratory fishing programmes it is necessary to tak[e] steps to import two or three of the prototypes of exploratory fishing boats which have been found suitable b[y] the Fisheries Technical Mission for operation in conditions existing in Indian waters. After gaining experience, the designs will have to be finalised and furthe[r] construction of such boats for commercial operations will be taken up.

I understand that a committee has gone into the details of the requirements of the next five years of fishery equipment from indigenous sources and also of the possibility of obtaining the balance of requirements from abroad. It will help streamline the production activities of the industry, if the recommendations of the committee are borne in mind by the various agencies and arrangements made for making available



Sri C. Subramaniam, Union Minister for Food, is delivering the inaugural address at the sixth meeting of the Central Board of Fisheries at Rajaji Hall, Madras, on 29th October 1966

he equipment from indigenous sources and also by ,dvance planning of import of the balance of requirements from credit sources. Such a streamlined procedure would assist in maintaining the tempo of activity of bringing in additional units of fish production in an organised and expeditious manner.

Training for Fishermen

Additional units for training for fishermen in the operation of small mechanised fishing boats have been established in some of the States under the Special Development Programmes. The Central Institute of Fisheries Operatives has also introduced two more courses and is taking up a new centre in Madras this year and an additional centre in Gujarat next year. Appreciating the need for providing training of personnel at different levels, great emphasis is being laid on the training programmes undertaken by the Central Institute of Fisheries Education, the Central Institute of Fisheries Operatives, the proposed Regional Fisheries Training Centres of Inland Operatives and the State Fishermen Training Centres. I would specifically invite the attention of the State Governments to anticipate the production programmes and the production units and have their men trained in the particular fields sufficiently in advance, so that the fishing vessels are put to use immediately they are constructed.

Fishing industry is one of the industries where Government or quasi-Government authority is the main source of financing and credit. In most developed countries, assistance in the form of loans and grants for fishing vessels, processing plants, etc., remission of taxes on fuel and essential items of equipment, finances for marketing, capital and marketing loans and the like, are available for the fishing industry besides, services like harbours, communication, power and water-supply. It is all the important that in a developing country like ours that these facilities are afforded to the fishing industry Financial assistance in the form of loans and subsidies are proposed to be given by the Government—for fishing vessels, and other equipment, processing plants, transport, etc. This assistance will have to be continued in view of the special nature of the industry. It is also appreciated that the incidence of duty on fuel is high. The question of relief on diesel oil has been taken up and certain relief has been extended for small fishing vessels. Such relief is also being considered for larger fishing vessels.

Credit for the fishing industry and formation of co-operatives are equally important. Assistance will b. available to ancillary industries to some extent through the Industrial Finance Corporation and the Agricultural Re-finance Corporation. But it should be admitted that the institutional finance for the industry, particularly the processing units, is not now available to the extent desired. Non-availability of institutional finance is due to the structure of the existing rules of the Reserve Bank of India. The Central and the State Governments have, however, a few schemes for financing such fisheries schemes as the industry do not attract institutional finance. It is necessary to continue such financial assistance till such time institutional finance becomes available.

Finance

The Central Fisheries Corporation was set up last year. Its primary function has been to organise supply of fresh fish to Calcutta. This Corporation is also now taking up programmes connected with the supply of fishery equipment and fishing operations. Some of the States have also established State Fisheries Corporations and some other States have organised Apex Co-operatives or Federations. These organisations shou be complementary to each other. In view of the fa

finances are provided by the State and the Central Governments for the development of fisheries, especially, those of productive schemes, it is equally the responsibility of the State Governments to fully back such State and Central Fisheries Corporations to achieve the ends for which these institutions have been established. For instance, with the development of reservoir fisheries, it would be possible to lay down a policy that the fish from the reservoirs and irrigation tanks are supplied through co-operatives, State Corporations or Central Corporations on an accepted system, so that the fisherman reaps the full benefit and at the same time the consumer gets fish at a reasonable price without middlemen exploiting either the producer or the consumer.

In organising a clearly defined national fishery development programme the State and Central Governments have to play an important role. It is, therefore, extremely important to consider how best the Government services are staffed and equipped to fulfil the responsibility. The Government do undertake a very wide range of activities in promoting the fishery industry, particularly in the fields of research, training, marketing and financing. The need for an effective Government Organisation, efficient administrative system and imaginative procedural devices can, therefore, be hardly overemphasised.

The Fourth Plan is now being finalised and I [illegible] all the State Governments would give sufficient pri[illegible] to productive fisheries schemes and to the essenti[illegible] services equired for obtaining additional fish [illegible] in the shortest possible time. If important [illegible] schemes are implemented on a priority basi[illegible] in increased fish production and export, it sho[illegible] difficult to find additional finance for increasing activities.

Recommendations of the Central Fisheries Board

It is proposed to build 25 large fishing vessels of 50 feet—60 feet for deep-sea fishing and the design for such a vessel has already been finalised.

This was announced at the meeting of the Central Fisheries Board which concluded its two-day session here to-day. The Board made a number of recommendations with a view to stepping up the tempo of fisheries development in the country. Its deliberations covered all aspects of fishery including the growth of related industries and training schemes so that an integrated approach could be made to the much bigger programme projected in the Fourth Plan.

It was recognised that there was considerable progress in mechanisation in the last decade but, commercial operations were still confined to 25 fathoms with vessels of about 30 feet. Existing research indicated that there was scope for extending fishing operations to the 40 fathoms line.

Holding the price line

With regards to larger vessels of the 50—60 feet category, it was stated that while 25 would be constructed in ship building yards in the country, 25 more would be obtained from Sweden under the credit agreement with that country. The Board also considered the problem of the increasing cost of construction of engines in India. The Board recommended that there should be a proper plan for maintenance of supplies of equipment on a 5-year basis, taking into account the indigenous production. It also emphasised the need for assured supply of spares and for improving the servicing facilities Programmes are also to be undertaken for training of personnel to handle such vessels and equip[illegible]

The Board agreed that it was imperative that State Governments extended their maximum su[illegible] to the Central Fisheries Corporation to enable [illegible] achieve the objective of maximum return to th[illegible] producers and of selling the fish to the publi[illegible] minimum economic rates.

The Board considered the different systems evol[illegible] in the country for leasing out inland fisheries, whi[illegible] had a bearing on this twin objective. The Board f[illegible] that the State Governments must take firm measu[illegible] to hold the price line, while ensuring adequate return[illegible] the producer. This, it was felt, could be done if the St[illegible] Governments took the following steps:

1. Leases should be given only to actual opera[illegible] No leases should be given to those fishermen's co-op[illegible] tives whose members did not fish.

2. Finance should be given through co-operative[illegible] the corporations for operating expenses and it would[illegible] ensured that the fisherman sold his produce thro[illegible] these organisations at fair prices.

3. Reduction in establishment costs of manager[illegible] while introducing measures for increased productio[illegible]

4. Federations of Co-operatives who get co[illegible] leases but do not extend the same to fishermen [illegible] not take the responsibility of marketing sho[illegible] recognised as genuine federations for purpos[illegible] lease.

5. There should be strict adherence to [illegible] mendation that assistance will be given [illegible] operatives on the condition that all catch[illegible] marketed by the Co-operative federation.

/perations should be encouraged to open fair
/ls and exports should be channelised to
/ent run corporations.

/oard considered the need to make reservoir
/ent for inland fisheries more economic than
/and laid down the principles to be followed in
/evelopment of reservoirs. It was said that
/some cases there were sporadic spurts in pro-
/a number of reservoir schemes had turned out
/neconomic. The following steps were recom-

/of Reservoir Fishery

/re-investment surveys should be conducted for
/posed reservoir project.

/pecial training in methodology should be given
/officers selected for the project.

/Research work on reservoir population should be
/up under the co-ordinated research scheme of
/dian Council of Agricultural Research and also
/ndently by the States according to the same
/dology.

/cted reservoirs should be kept under depart-
/anagement to facilitate obtaining of reliable

/e terms should be so framed as to ensure
returns on production.

Construction of nurseries and rearing tanks and
/al of trees, etc., in selected areas should be
/ed in project estimates.

Research work be continued on evolution of
/e craft and gear, and

/he Fisheries Research Committee may organise
/ar to gather together the technical knowledge
/e in India on reservoir studies.

The Board also considered the question of shortage of ice, of the need for setting up and utilising the ice and cold storage facilities. The problem of training technical personnel in the field of referigeration was also discussed.

The question of utilistion of existing training facilities was fully discussed. Especially, in relation to the courses at the Central Institute of Fisheries Education, it was pointed out that while the Institute had decided to increase its capacity forDiploma Course, the States were not sending sufficient men for training. The Ministers and other representatives of various State Governments present agreed to ensure that adequate number of trainees would be sent so that a steady flow of trained personnel was available.

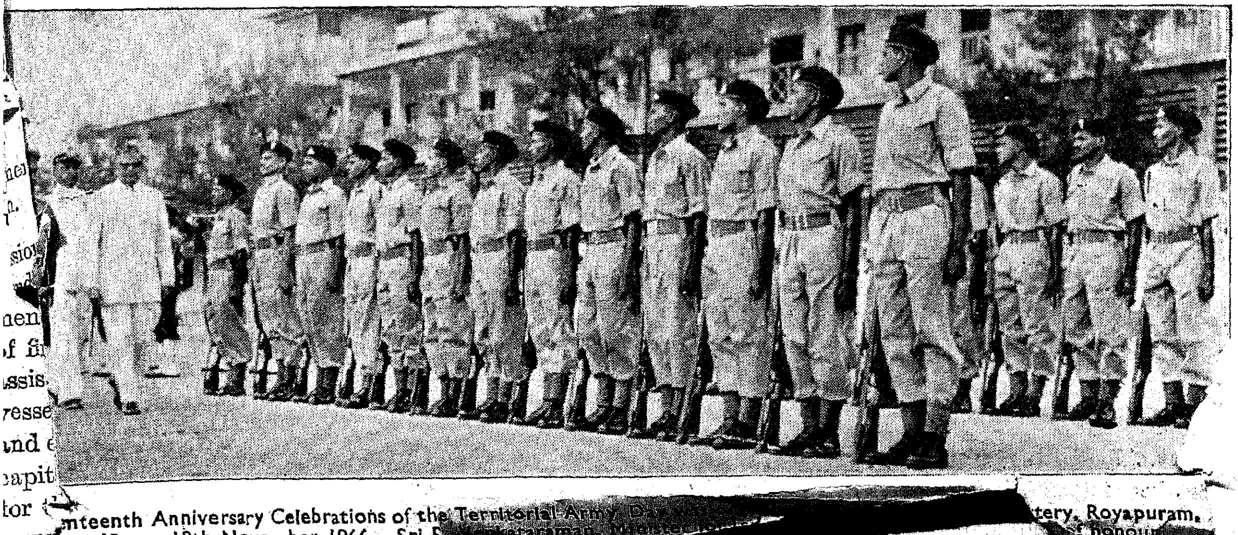
Committee on Training Courses

The Board approved of the proposed three more units for training of Fisheries Operatives—two on the East Coast and one on the West Coast.

The Board also considered and agreed to changes in the syllabi of the training institutions so as to make them more effective in imparting training in modern scientific methods.

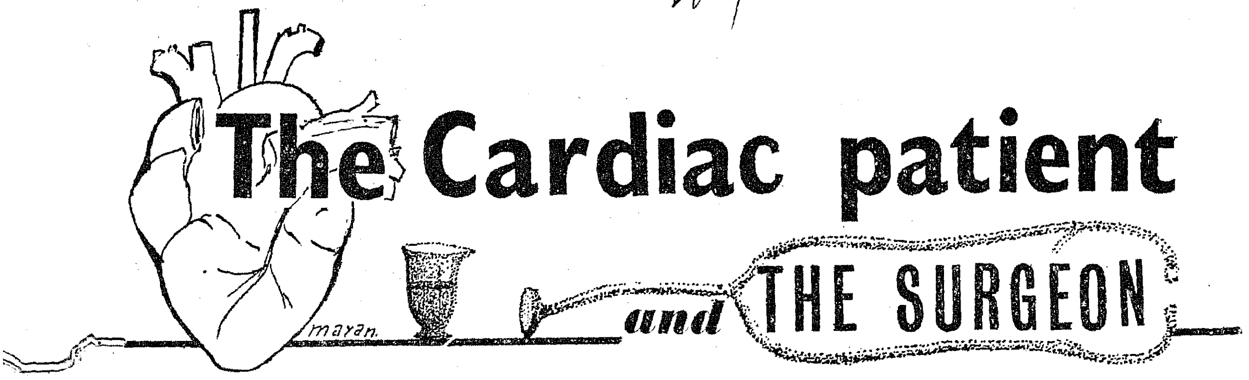
In view of the great diversity in the facilities for in service training of staff in different States, the Board set up a committee to go into the whole question of staff training courses and suggest measures for ensuring useful and effective training at various levels.

The Board reviewed the progress in the Third Plan and the progress made on action on its recommendations at its last meeting.



...nteenth Anniversary Celebrations of the Territorial Army ... tery, Royapuram, ...dras-13, on 19th November 1966. Sri ... ...plementary to each other.

The Cardiac patient and THE SURGEON



Dr. C. S. SADASIVAM, M.S.

The Fifth Post-Cardiological World Congress Session was held at Madras on 8th and 9th November 1966. This article is reproduced from the Souvenir released on the occasion.

" Most can raise the flowers now
For all have got the seed "
— *Tennyson.*

The seeds sown by the trials and tribulations of pioneers are now bearing fruit. Nevertheless the responsibility of the surgeon to the patient is greater. " When a surgeon comes in contact with the patient, the supreme object of his study, and of his laborious scientific preparation, he is brought face to face with a conscious human being, a man like himself, suffering all the human reaction to pain and distress who appeals to his superior knowledge for relief (Rudolph Matas) ".

The cardiac patient has been described as a special kind of disabled person, who has no disability on the surface. Yet the despair of a child, who can but sit and watch other children at play, of the maiden forbidden marriage because of heart disease, of the young man with the doors closed for employment, of the father uncertain about the future and his family, and of the old man with enforced restricted activity, is unfathomable.

Cardiac surgery

The basic personality of the patient, the structural and functional consequences of heart disease and the personality of the physician, determine the ultimate emotional status of the patient. Cardiac surgery plays a significant role in restoring the patient to an optimum level of physical and mental activity.

Today, the number of patients who have been cured of heart disease is growing. Patent Ductus Arteriosus, Atrial Septal Defect, Ventricular Septal Defect, Coarctation of Aorta, Fallot's Tetralogy, Aorto-Pulmonary window, Rupture of Sinus of Valsalva, Anamalous Pulmonary Venous Drainage, Coronary Fistulate' Anomalous Systemic Venous Drainage, Pulmonary Arterio Venous Aneurysm, Pulmonary Embolism Hydatid disease of the heart, Tumours of the heart, Traumatic diseases, and Cardiac aneurysms can be cured. Varying degree of palliation can be achieved in congential cyanotic heart diseases (Fallot's tetralogy, Transposition of vessels, Tricuspid atresia), congential acyantotic heart diseases, rheumatic valvular diseases, syphilitic aortic incompetence, myocardial ischaemia and heart block.

The surgery was born

Cardiac surgery has no claims to be the panacea for heart disease. A clear understanding of the diseases its prognosis, a sympathetic understanding of the surgical problems, the aim of surgery, its capacity and limitations, particularly from the family physician and professional colleagues, would greatly enhance the ultimate impact of cardiac surgery on the patient. There is more in the art of healing than medicine and surgery. Gullible patients feel relieved of their symptoms, even after an E.C.G., or cardiac catheterisation has been performed. Not infrequently, patients in whom no mitral valvotomy was feasible, after exploration of the mitral valve, experience considerable improvement, in spite of deterioration in skiagram of the chest and E.C.G. One must of course tell the truth to the patients. Though the whole truth need not always necessarily be revealed.

Cardiac surgery was born with attempts to suture injured hearts since 1835. Pericardiectomy was done

The Post Congress Session of the World Congress of Cardiology was inaugurated by Sri M. Bhaktavatsalam, Chief Minister, at Rajaji Hall, Madras, on 8th November 1966.

Smt. Jothi Vencatachellum, Minister for Public Health, who released the Souvenir on the occasion is presenting a copy of the same to Dr. Helen Taussig, Specialist in Cardiology from U.S.A.

successfully for constructive pericarditis in 1910. The first successful digital commissurotomy for mitral stenosis, by Sir Henry Souttar in 1925, and successful ligation of Patent Ductus Arteriosus by Gross in 1938, established cardiac surgery. The palliation of Fallot's Tetralogy by the Blalock-Taussig operation in 1944, set the pace for further developments in cardiac surgery.

Occluding the vena cavae, and the great vessels, under hypothermia, closure of atrial septal defect was achieved by Lewis in 1952, and Swan in 1953. The need for more time to repair complex intracardiac defects led to the development of the heart lung machine. John Gibbon of Philadelphia developed the first heart lung machine to be used in man. The machine receives venous blood from the patient, oxygenates it, lowers its temperature if required, and pumps it under pressure into the aorta. The method of oxygenation, the type of pump and technique of the by-pass has been modified by countless workers in this field. The meticulous and successful use of a living human donor for the purpose of oxygenation, though not in vogue now, deserves mention. Using this technique, Lillehei, achieved complete repair of Fallot's Tetralogy in 1954.

The use of the heart lung machine gives access to the interior of the heart and allows ample time to close defects, widen narrowed passage and repair or replace valves.

The advancement

The first successful intracardiac use of ball valve prosthesis was by Albert Starr and Edward in 1960. Hufnagel had placed artificial valves in the descending aorta, to control aortic incompetence in 1959. Murry, in 1956, has placed cadaveric aortic valve homografts in the descending aorta for the same purpose. Ducan and Gunning placed the homografts in the normal subcoronary position in 1962. Rose and Barrett Boyes further advances the use of homografts.

To view open-heart surgery in the proper perspective, the following points should be borne in mind :—

1. The follow-up after open-heart surgery has been short; about ten years in general and five years for valve replacement.

2. In an ideal set up, open-heart surgery is not without significant mortality. Unhappy experiences in less established centres are often not reported. Hence leading to the overall figures not truly representative.

3. The spectrum of pathological variations of intracardiac anomalies is wide. Some types of Tetralogy of Fallot can be totally corrected. Other types defy repair. Likewise in other diseases, the defect may not be amenable for correction.

4. The ideal valve has not yet been devised. The successfully used valves are liable to be the source of thrombo embolism and valve dysfunction.

5. No series of patients submitted for intracardiac surgery including valve replacement have been matched against a comparable control series. The natural course of the disease has to be weighed against the merits and demerits of open-heart surgery.

Towards perfection

Attempts are afoot to transplant a heart, or implant a mechanical heart. It is interesting that though the heart was the last organ to came under the surgeon's knife, it is the first organ for which a lasting artificial intracorporeal substitute is being planned.

Open-heart surgery has come to stay. The limitations of cardiac surgery will not deter one from greater effort. Where there is sorrow, and sickness, there is sacred ground. Let us tread the ground with humility and reverence. If cardiac surgery helps in the alleviation of suffering and prolonging useful life, it would have achieved its purpose. 'No research is ever quite complete. It is the glory of a good bit of work, that it opens the way for something still better, and thus rapidly leads to its own eclipse'. 'Let tireless striving stretch its arms towards perfection'.

Deep Sea Fishing

SRI G. BHUVARAHAN, *Minister for Information and Publicity, Government of Madras.*

We are indeed glad that the Government of India have found it possible to hold here the sixth meeting of the Central Board of Fisheries and the thirteenth meeting of the Central Fisheries Research Committee. Madras is one of the premier States in India with well-developed and organised fisheries ; and it is only in the fitness of things that these important meetings should be held in this City.

The Madras State Fisheries Department is the oldest Fisheries Department in the country. It was constituted in April 1907. During the course of the last six decades of fishery development, this Department has gathered numerous resources and facilities including eleven marine, inland and technological research units, three inshore fishing centres, six fishermen training centres, one staff training institute, three boat building yards, five service centres, about 500 mechanised fishing boats, several departmental farms and spawning and culture centres, fish-curing yards, ice plants and cold storages, canning factory, fish distribution vehicles, about 400 fishermen co-operative societies and Unions and the Indo-Norwegian Project at Mandapam. The total annual fish production has increased from 78,000 tonnes in 1950–51 to 2,52,000 tonnes in 1965-66.

Fish as food

As a source of food, fisheries stand almost at par with animal husbandry for providing the animal protein requirements of our people. But there is a great gulf at present between our production and consumption requirements based on considerations of nutrition. In view of the rapidly increasing population and the urgent necessity for improving and increasing the food supplies of the country it is imperative that the conservation, development, exploitation and utilisation of the fisheries resources are given more serious attention by the Central and State Governments. It has to be noted here that the agricultural food resources of the land have almost been exploited to the maximum and that we have to turn to the sea for more food.

So far our efforts for increasing fish production from the sea have been confined to the coastal areas and not to the offshore deep waters. Though some exploratory fishing with few medium-sized vessels is conducted by the Central Government, deep sea fishing worth the name has not been organised. The Arabian Sea, Bay of Bengal and the Indian Ocean abound in oceanic fisheries. There was also deep sea fishing grounds like the extensive Wadge Bank and Pedro Bank, which have not been exploited systematically. Want of larger vessels like trawlers, tuna boats, factory and mother ships is the primary factor for non-development of deep sea fishing. It is essential that the Centre procures these vessels and assists the States in organising deep sea fishing.

Deep sea fishing

The need for fishing harbours for berthing and sheltering fishing boats and vessels is also most urgent. Without harbours and their complex of shore installations for processing and distribution, deep sea fishing will not be a success. Madras State is at a more disadvantageous position due to its heavily surf-beaten coast and sand bars at the river mouths while joining the sea. The coast is also susceptible to the north-east monsoon and periodical cyclones and tidal waves. The problem is both peculiar and difficult that even the smaller mechanised boats do not have proper anchorage facilities. We hope that work on the major fishing harbours at Madras and Tuticorin will be initiated soon. More harbours, both large and small, and landing jetties have to be established at all important fishing centres along the entire coastline of the country.

Sri G. Bhuvarahan, Minister for Information and Publicity, presided over the function arranged in connection with the sixth meeting of the Central Board of Fisheries at Rajaji Hall, Madras, on 29th October 1966.

Progress of Co-operatives in India

All-India Co-operative Week was celebrated all over the country from 5th to 11th November 1966.

Launched at the beginning of the century in an effort to provide easy credit to needy cultivators, co-operative movement today embraces almost all facets of economic activities of India.

At the beginning of the First Five-Year Plan (1951–52), the number of all types of co-operative societies in India was 180,000. It rose to 240,000 by the beginning of the Second Plan (1956–57), 330,000 by the beginning of the Third, and stood at 375,000 in 1964–65.

The number of primary agricultural co-operatives declined from 212,000 in 1960–61 to 203,000 in 1964–65. It is proposed to reduce this number further to 128,000 by the end of Fourth Plan under a policy of having only viable units in villages.

Expansion, however, took place in the number of non-credit societies. Co-operation developed in marketing, processing, housing, consumers, industries, labour, transport, farming and other activities of weaker sections. Membership of co-operatives increased during the period 1950–51 to 1964–65 by about 360 per cent. Share capital of co-operatives went up by over 700 per cent and working capital by 600 per cent.

Credit, marketing and processing

About 83 per cent of the villages and 33 per cent of population were covered by agricultural credit societies at the end of 1964–65. The extent of agricultural credit disbursed by co-operatives increased from about three per cent of the total borrowings of farmers in 1951–52 to about 26 per cent in 1964–65.

At the end of June 1965, there were 2,231 primary marketing societies, 160 district level societies, 19 apex marketing societies, three State-level commodity federations and one national co-operative marketing federation. The total value of agricultural produce handled by them rose from Rs. 53 crores in 1955–56 to Rs. 301 crores in 1964–65. This represents about a sixth of the total trade in rural areas. Co-operatives handled foodgrains worth Rs. 200 crores in 1965–66.

Co-operative processing societies, particularly sugar factories, also recorded progress. In 1965–66, there were 51 co-operative sugar factories in India as against three in 1955–56. These accounted for 26 per cent in the national sugar production as against 1·6 in 1955–56. In 1964–65 cotton co-operatives accounted for 8·8 per cent of raw cotton ginned, and 10 per cent of lint cotton pressed. Paddy husking and rice mills also came up in large numbers. The National Co-operative Development Corporation helped 470 small rice mills and five modern rice mills. Other processing industries which made significant advance were fruit and vegetable preservation, tea and coffee curing.

In 1955–56, the value of agricultural requisites (fertilisers, implements, seeds, pesticides, etc.), handled by co-operatives was Rs. 3 crores. This went up to Rs. 104 crores in 1964–65. The value of fertilisers handled by co-operatives went up to Rs. 73 crores in the year, constituting about 75 per cent of the total quantity of fertilisers sold in the country.

Consumer Co-operatives

Consumer co-operative movement now spreads throughout the country. The setting up of consumer stores is linked up with Government's plan for holding the price line. There were 230 wholesale and 7,332 retail stores in the country at the end of 1965. Their sales exceeded Rs. 12 crores per month, recording an increase of over 600 per cent over their previous year's performance. The consumer movement has been further augmented by taking up an accelerated programme of organising 101 wholesale and 60 department stores by the end of this financial year. Twenty-one department stores have already come into existence in big cities in the country. This has been done to hold the price line of essential commodities in the wake of devaluation of the rupee.

A step forward has been taken in linking co-operative credit with marketing. Out of about 2 lakhs of primary credit societies, about 1·25 lakhs are affiliated to marketing co-operatives.

In the Third Plan, nearly 800 godowns of marketing societies and 6,000 rural godowns were assisted by co-operatives.

In the field of co-operative farming, 2,485 societies have been organised in pilot areas. In non-pilot areas, 2,527 other societies have also come up.

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One of the principal aims of planned development of India is to create conditions for the growth of progressive co-operative rural economy with diversified occupational structure, in which the weaker sections of the community are brought speedily to the level of the rest.

There are programmes for setting up co-operative societies for development of poultry, fishery, transport, rickshaw-pullers, forest, labour, construction, taxi drivers, washermen, etc. This is directed towards helping the economically backward classes.

CO-OPERATIVE MILK SUPPLY SOCIETY

The question of providing some help to the poor families of Jawans residing in villages was considered for some time, and it was decided that if milk supply societies, poultry units, etc., were organised on a Co-operative basis in the villages where there was a large concentration of families of Jawans it would go a long way in augmenting their family income. The idea of organising a co-operative milk supply society at Mudivaithanendal village for the members of families of Jawans was conceived by the Amenities to Troops Relief Committee, Tirunelveli, of which Srimathi Susheela Rajendran is the Chairman.

Financial Assistance

Mudivaithanendal is a village panchayat having a population of 4,730. There are about 200 Jawans' families in the village. The village is situated at a distance of about 12 miles from Tuticorin. Thirty-eight women members belonging to the families of Jawans have joined as members of the society with an initial share capital of Rs. 1,900. The society was registered by the Deputy Registrar of Co-operative Societies (Dairying), Virudhunagar, on 12th April 1966. More members of Jawans' families can be expected to join as members when the benefits of the society are known by its working.

The financial assistance to this society has been granted by way of loan from Government and outright subsidy from the Amenities to Troops Relief Committee Fund. The Deputy Registrar for Dairying, Virudhunagar, has sanctioned a loan allotment of Rs. 7,750 for disbursement to the members for the purchase of animals at the rate of Rs. 250 per member.

The money for the subsidy portion was collected partly through the benefit performance held in Tirunelveli and partly through the collections made by the members of the Committee last year. The details of the subsidy paid are as follows :—

A subsidy of Rs. 10,300 has been sanctioned for the following purposes :—

	RS.
Subsidy for the purchase of milch animals at Rs. 250 each for 38 members.	9,500
Subsidy for purchase of utensils such as milk cans, buckets, etc.	500
Subsidy for purchase of one cycle.	300
Total ..	10,300

It is also proposed to give a subsidy of Rs. 4,000 for the construction of a milk shed and for the purchase of site for the shed. The Commissioner has informed that the Government have been addressed for sanctioning the post of a Junior Inspector of Co-operative Societies to work as Secretary of the Society. The society was inaugurated by Sri M. Bhakthavatsalam, Chief Minister of Madras, on 4th October 1966.

Prospects of the Society

The society will have its market at Tuticorin. The Tuticorin Milk Supply Union will purchase milk from this society at the prevailing rate. The estimated milk production in this society will be 200 litres per day. The margin of profit will be 10 Paise per litre and as such the society will get a profit of Rs. 20 per day or Rs. 600 per month. The estimated expenditure of this society will be Rs. 190 per month towards vendors' salary and contingencies.

This all-women member society will help the Jawans' families to maintain themselves year after year. It is the first of its kind in this State. Such societies which will go to augment the income of the poor families of Jawans will greatly encourage the Jawans who are engaged in the sacred task of defending the country and will help to boost their morale.

Poultry Farming—A Family Enterprise

SHANTHI SUDARSANAM

Project Nutrition Officer, Directorate of Rural Development, Madras.

It was with curiosity I went to Iyyampalayam in Athoor I Block, Madurai district, with the District Poultry Officer as I was told that there was a family of teachers in that village, they conducted a school in one portion of their house and a poultry unit on the other side and that they employed no labour, bought no premixed feed, and no equipment and all the same, they found poultry farming, a paying concern !

I met the grand old man, Royappa Pillai, the head of the family, standing at the gate of his house. He led me first into what appeared from the outside a huge thatched cinema hall-one of the types that one put up as "touring talkies" in the villages. It was partitioned. On the one side, was the school and on the other side of the partition, were 3 tiers of bamboo poultry house, stretching the length and breadth of second half of the hall. There were over a thousand bird-sorted out in age groups in each tier, the larger alone, being 150 in number. Royappa Pillai said that the birds gave them normally about 70 to 75 eggs a day !

I asked him, how he started the unit and he explained with great interest introducing to me his wife and his daughter-in-law and his two sons. They were all teachers in his school. His wife and daughter-in-law helped him with looking after the feed and collecting and storing the eggs. His sons helped him in the construction of the whole system of bamboo poultry houses, construction of all the wooden feeding troughs, water feeding troughs, etc. Both the boys knew carpentry and did all the wood work. One of them learnt some electrical mechanism and assembled incubators and looked after the electrification of the poultry houses and the brooders. The boy who worked on the incubators took me round to show the two incubators he had set up and the home made brooders he had designed for the chicks of the different age groups.

On questioning how he got interested in poultry Sri Royappa Pillai related the story as follows :—

In 1963 there was an agricultural fair in Madras to which his two sons went. They were fascinated by the model of the deep-litter system of poultry rearing in the Veterinary stall and collected all the printed pamphlets about it from the Exhibition and studied them. On return to Ayyampalayam, they started a poultry unit, with a few birds. For further details, they asked for their father's help. In the pamphlet was given the address of one Mr. Moore, a poultry expert in Hyderabad and so Royappa Pillai wrote to him for advice and asked if he might go over to Hyderabad for some poultry training. Mr. Moore readily agreed and Royappa Pillai went to Hyderabad, for undergoing training for a fortnight under Mr. Moore. He said he learnt there about management of poultry units, feeding of poultry, recognition and treatment of diseases of poultry, preventive measures against diseases, poultry housing under village conditions care of eggs and chicks incubation, poultry marketing, etc.

On return to his village after training, he enquired about any aid from the Government for poultry farming and the District Poultry Officer explained to him the poultry 'crash programme' and arranged to give him Rs. 5,000 as loan, which has to be returned in instalments of Rs. 100 each month. The District Poultry Officer visited Ayyampalayam and was impressed with the interest evinced by the family and after a careful assessment of all the criteria required of a recipient of such a loan arranged for the loan. The sons brought the wood and bamboos and made all the chicken houses. They made the incubators and the brooders, the feed troughs and the water-troughs. The father planned out the feed trying out his own formula to keep the cost low. He said the bulk was tapioca flour. He bought dry fish and prepared his own meal to mix with the tapioca. Rice, bran formed a small proportion and the vitamin, etc. he bought for price but kept that expenditure to a minimum.

The women did the cleaning of the chick houses and collection of eggs and keeping the accounts. They showed me a basket full of large white leghorn eggs, which were ready for sale. Royappa Pillai said he was able to get more income through the sale of adult birds and so he concentrated more on rearing the chicks for sale. Cockerals were bought by the villagers to improve local breeds. The Block Development Officer also bought cockerals for the desi birds exchange programme.

The entire family is running their unit well and Royappa Pillai is very regular in remitting into the Treasury, the repayment of the loan, in instalments.

Many a visitor has seen this family enterprise and have been inspired to start their own availing themselves of the facilities offered by the Government to popularise poultry farming.

Lord Curzon Lecture:

Increasing Agricultural Production in India

PROFESSOR M. R. BALAKRISHNAN, *F.A.O. Expert (Retd.)*

The following article is one part of the three lectures delivered at the Agricultural college and research Institute, coimbotore.

The situation in India is exactly similar to what has been seen in the world picture. Insufficient land area, low productivity and an increasing population are the contributing causes. India is no better nor worse than many other countries, although her large population makes one feel apprehensive. A review of the figures available for the last ten years on agricultural production, does show that India has maintained progress. The index numbers of agricultural production substantiate this.

India's real problem has been an abnormally alarming increase in population. From 250 millions in 1901, it has reached 440 millions in 1960-61, an increase of nearly 90 per cent. Her population has doubled itself in 60 years but agricultural production has registered an increase of only 10 to 30 per cent in different crops during the same period.

Irrigation and research

A start has been made on correct lines to provide one of the measures needed for increasing production, namely, irrigation. The work, however, will take time for full utilisation. Even in advanced countries like the U.S.A. it has taken two to twenty years for the irrigation potential created to be fully utilised. In India, several irrigation projects constructed 30 or 40 years ago have still 30 to 50 per cent of their potential to be utilised. From experience in many countries and in India from the earlier projects, certain features seem to be operative factors for non-utilisation or partial utilisation of irrigation projects.

On the engineering side, the construction of the canal, the sluices and the field channels take much longer than the main works. On the agricultural side, farmers are not ready with knowledge of new crops and practices. The Government is also not fully equipped to deal with the new situation like the supply of seeds, fertilisers and provision of markets.

The mistake lies in the fact that agricultural research started only after the project construction was finished. The correct thing will be to start research much earlier, accumulate knowledge and material and be ready to switch over to new conditions as soon as water is available. There must, therefore, be an Agricultural Research Station associated with every project and its work and findings must be coeval with construction on the engineering side and its progress. For large projects, even more than one Research Station may be needed. The Thungabhadra was the only project started on the correct lines, with an Agricultural Research Station at Siruguppa, which was started four or five years before the project work began.

Apart from these major irrigation projects, the utilisation of underground water has had much attention during the last decade, particularly in Madras. In many parts of Madras State, the sinking of wells has proved a great boon to the farmer. The old methods of lifting water by the *Picottah* and the *mhote* are being replaced by the electric power, in the development of which Madras has taken a foremost place.

The installation of filter points and tube wells to tap the underground supply of water is another fruitful line of exploration. This has to be preceded by a survey of ground water level and supply. In Tanjore delta where this scheme is to operate this year, Government has done the initial survey and sanctioned the scheme of installation. The results will be worth watching, but there is no doubt that it will be a success. If it is, the scheme must be extended to other areas, of course preceded by a survey and after correcting mistakes that may be found in working the scheme in Tanjore delta.

Fertilisers

We must have both Major Irrigation Projects and Small Irrigation Schemes. The former have a long range vision and take quite sometime to get fully utilised. The latter have a short range effect and targets are easier to reach, which is important because, we have to get quick results at the present time, while building up our potential at the same time. Tanks, wells, filter points and tube wells have a greater chance of success at the present moment, than huge irrigation projects because of the lesser cost of initial investment and time and energy spent. There is one great advantage in rice production under these minor irrigation schemes. There will be economic use of water and there will be no fear of over-irrigation, flooding and problems of drainage. Thus, in Israel considerable progress has been made not by big irrigation projects but by the tapping of underground water.

The application of fertilisers to increase production has made remarkable progress in India during the last ten years. Investigation on the response of different

crops to different kinds of fertilisers, their optimum dose, the time and methods of application and their reaction under different soil conditions, has been carried out in Madras State. Almost all crops have figured in the trials, but special attention has been paid to rice, sugarcane, *ragi*, cotton and potato. Different kinds of fertilisers, nitrogenous, phosphatic and potassic, as also organic manures have been studied. Ammonium sulphate, nitrate of soda, calcium cyanamide and urea among the nitrogenous; rock phosphate, super phosphate, and several proprietary compounds supplying phosphorus in a soluble form, among the phosphatic; muriate and sulphate of potash, among the potassic, have all received attention in these investigations.

One important aspect of the Madras work was the stress laid on the use of organic manures like farm yard manure, oil cakes, bone and fish meal and last but not least, different kinds of green manures. Recognising the insufficiency in the country of these organic manures, the Department has always been advising the use of fertilisers, in judicious combination with the organics. Apart from the immediate effect and response obtained by the fertilisers, the maintenance of soil fertility in the long run has been the main plank of departmental propaganda. With this object in view, they have been advocating a basal dressing of cattle manure or green manure before applying the fertiliser. In this connection, a number of green manure crops under different conditions have received special attention. The growing of green manure crops and ploughing them in, is a practice, peculiar to Madras which has acquired a reputation for the adoption of this practice in all double cropped wet lands.

Meeting the demand

Phosphatic fertilisers and their importance have also been kept in view. The manurial experiments have indicated that as in Thailand, Burma and other Asian countries, phosphoric acid is a limiting factor to production in certain areas. On laterites rich in iron, to avoid the risk of the soluble phosphate applied becoming fixed as insoluble ferric phosphate, the experiments have indicated that the incorporation of green manure and the application of lime will help to ward off the evil. As a result of these experiments, special formulæ for fertiliser mixture have been worked out by the Government Agricultural Chemist. They are for different crops and for different soil regions. The formulæ indicate the amounts of different nutrients-nitrogen, phosphorus and potash that have to be found in the mixture. The famous *Nanjanad mixture* for potatoes is an illustration of such formulæ.

At the end of the last Great War, fertiliser mindedness and fertiliser application had become very ordinary features of the farmers' cultivation methods, for which no propaganda was needed. Good wine needed no bush.

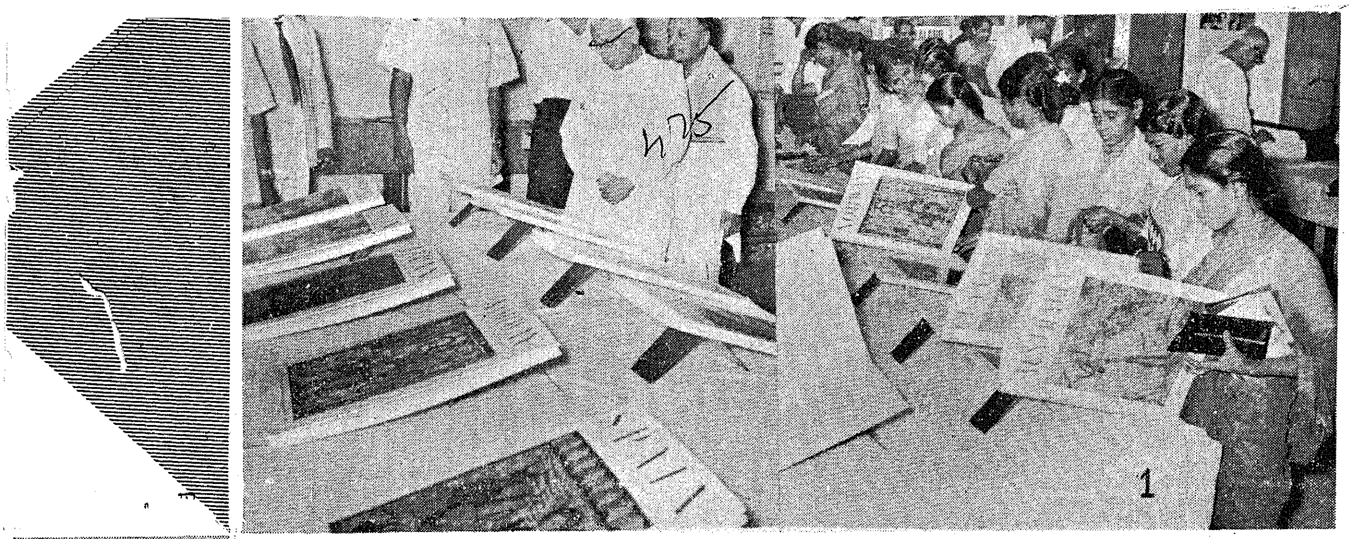
While this remarkable change can be solely attributed to the excellent technical work done by the researchers, today, one is faced with the situation that the demand far exceeds the supply. The factories manufacturing fertilisers are not able to cope with the demand because they were started only recently and some of them have not gone into full production yet. Once again, it is a question of a late start and defective research.

By the end of the Fourth Plan, about 180 to 200 million acres are expected to come under irrigation. Assuming that this area will require fertilisers, we can expect our consumption to be about two to five million tons of nitrogenous and about three-fourths of that amount of phosphatics. Till now, our supply has been met by way of imports from the U. S. A. It is reported that a quarter of the nitrogen applied by the farmer comes from American sources, and American assistance. Hereafter, fertiliser manufacture within the country must be stepped up with foreign collaboration.

High yielding varieties

In the field of improving seed and evolving better strains, quite an amount of creditable work has been turned out in India. The most spectacular achievement of the Madras Agricultural Department as long as 20 to 25 years ago, and one which even the critics of the Department have paid encomiums about, is the one relating to the seed material of the several crops evolved by the Department. Better strains, with higher yielding power, more resistant to diseases, more economic response to fertilisers, incurring less expenditure and fetching higher value in the open market have won for the Department a shower of praise on every hand. In fact, the agricultural depots become the popular meeting place for farmers who used to crowd round the demonstrator with demand for 'company' seed as the Department seed was called in those days. Incessant research is going on in this field and new strains are being added every year, as soon as there are indications that the old ones have lost their vigour or appeal for some reason or other.

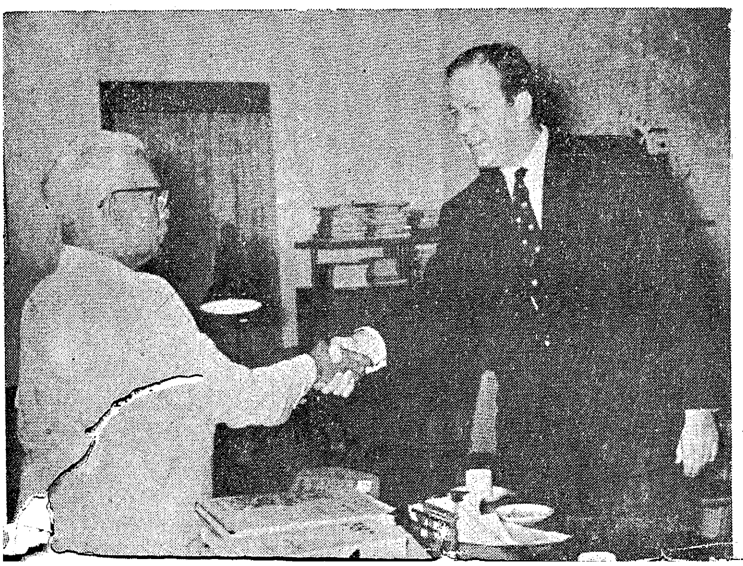
Entomological and mycological investigations have not lagged behind other branches of agricultural research during the last two decades. Control methods suggested by the Department and followed by the farmers have more than kept in check the ravages of insect pests and of diseases. In the earlier days, the control methods were mostly of a mechanical nature like hand picking, dragging ropes across the fields, digging ditches round them, cutting off affected parts and promoting conditions uncongenial for the development of insects and fungi. The insecticides of those days were lead arsenate and similar chemical



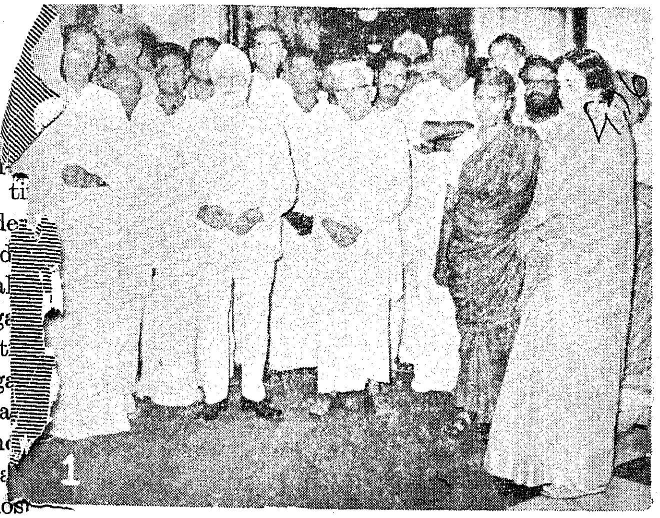
1. Sri M. Bhaktavatsalam, Chief Minister, inaugurate the Teachers Workshop for Education i International Understanding organised under th auspices of the Indian National Commission fo Co-operation with UNESCO, at the Distri Central Library, Mount Road, Madras, o 7th November 1966. He is going round th Exhibition arranged in this connection.

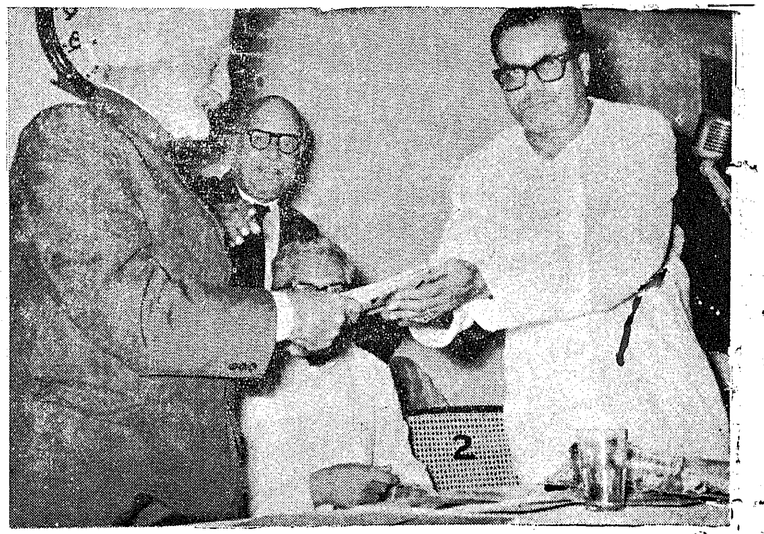
2. Sri M. Bhaktavatsalam, Chief Minister, handing over the gift parcels to be sent to the Defence Personnel for Deepavali to Sri M. Balakrishna Menon of Special Armed Police.

3. The Chief Minister handing over the gift parcels to Brig. Pandalai.



4. Sri M. Bhaktavatsalam, Chief Minister, receiving Mr. Arnold Smith, Commonwealth Secretary-General, when the latter called on him at his chambers in the Secretariat on 9th November 1966.



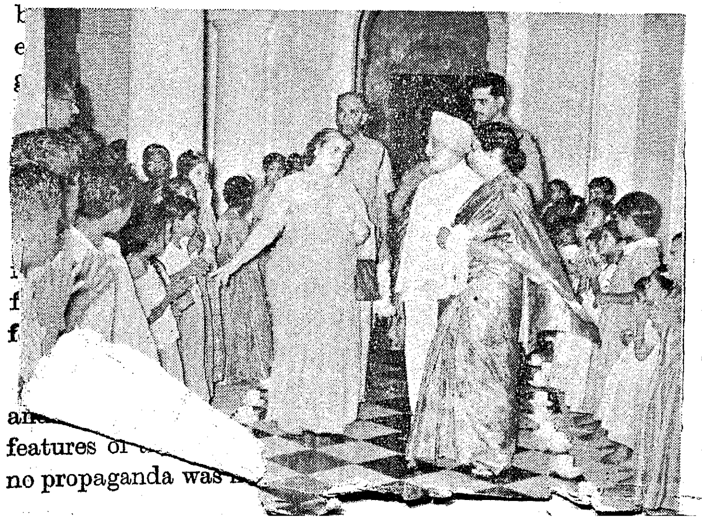


1. The Governor, Chief Minister and Minister for Industries with the Members of the Madras Legislature at a Dinner given by the Chief Minister, Madras, on 8th November 1966.

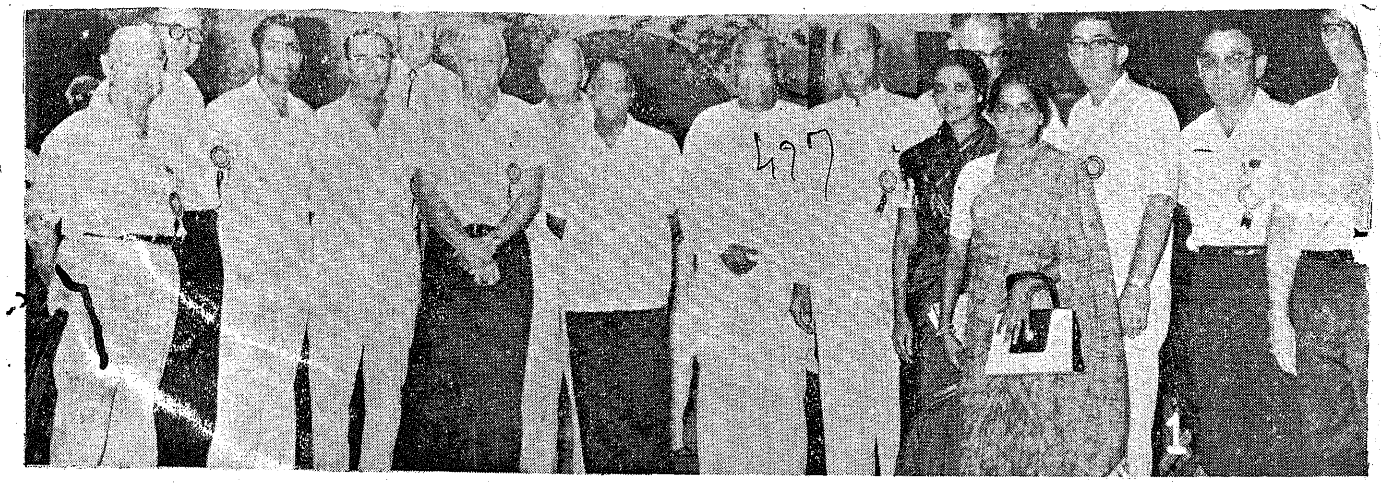
2. The All India Co-operative Week was inaugurated by the Governor of Madras, on 5th November 1966. Chief Minister presided. Sri R. Venkataraman, Minister for Industries, inaugurated the Research Centre of the Tamil Nadu Co-operative Union. Sri N. S. Sakkarai Mandradiar, Minister or Co-operation, who released the special number of "the Madras Journal of Co-operation" on the occasion is presenting a copy to the Governor.

3. The 279th Inauguration Day of the Corporation of Madras was celebrated on 30th October 1966 at Nehru Stadium. The Mayor Sri Minor Moses is presenting Civic Address to Dr. P. V. Cherian, Governor of Maharashtra, and Mrs. Tara Cherian on the occasion.

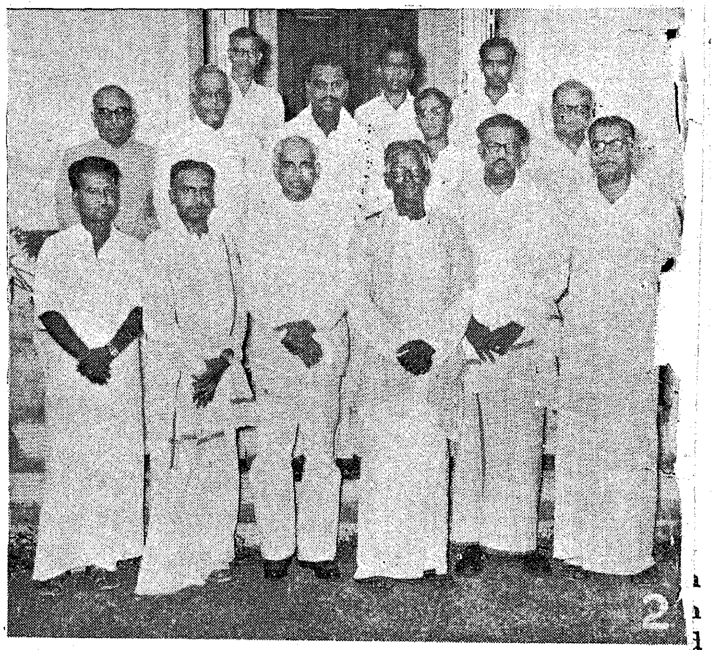
4. Sri Minor Moses, Mayor of Madras, presenting the Civic Address to Sardar Ujjal Singh, Governor of Madras, at a function specially got up at the Nehru Stadium, Madras, on 4th November 1966.

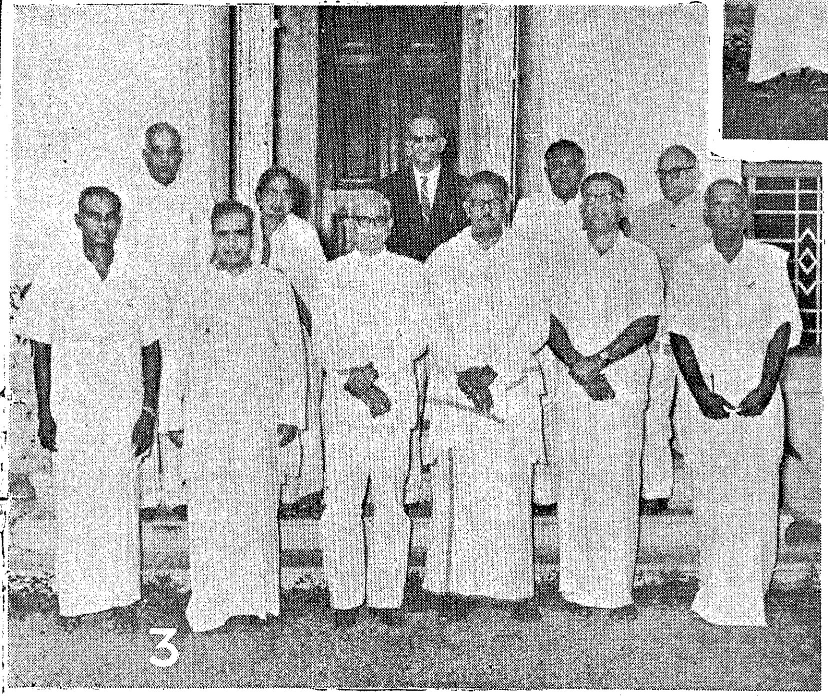


5. Sardar Ujjal Singh gave tea to the children of city orphanages on 11th November 1966.



1. Sri P. Kakkan, Minister for Home, got up a party to meet the delegates of the Regional Conference of Key Personnel of Intensive Agricultural District Area and High Yielding Varieties Programme at Rajaji Hall on 10th October 1966.

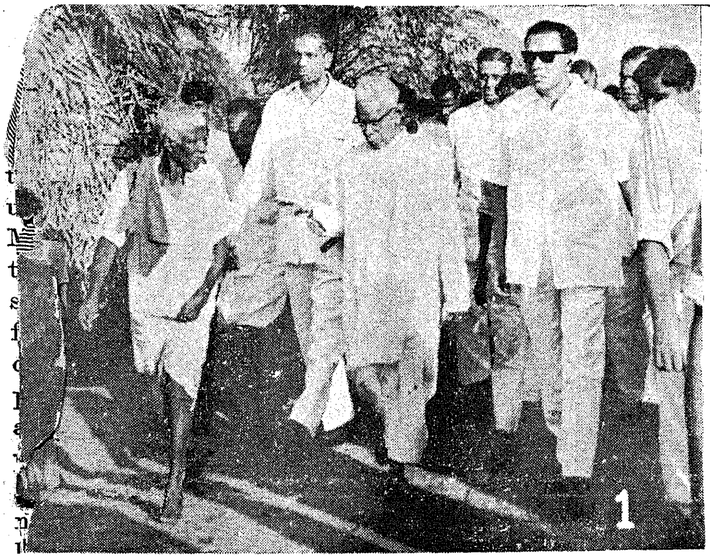




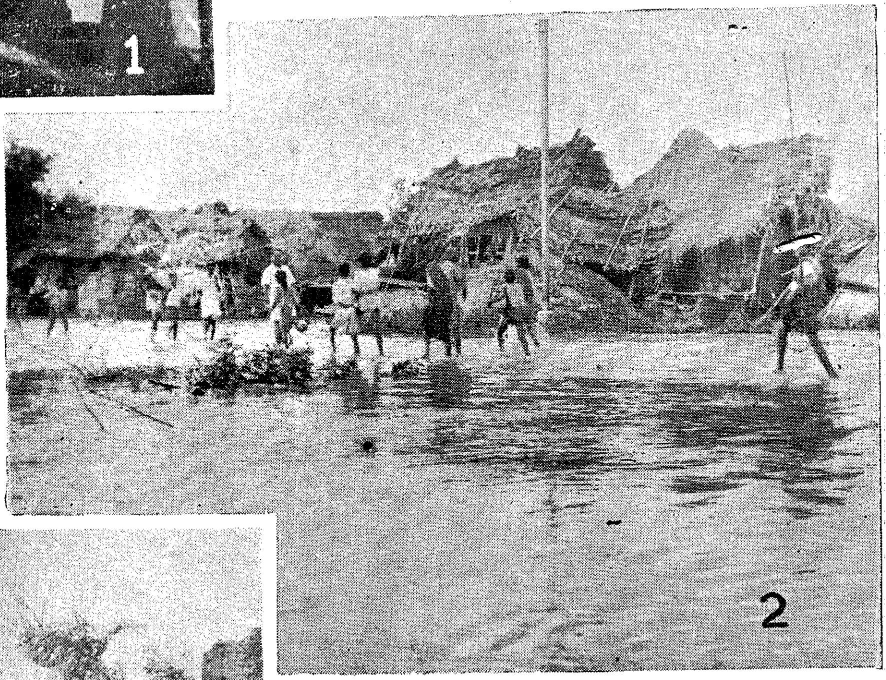
2. Members of the Committee on Government Assurances.

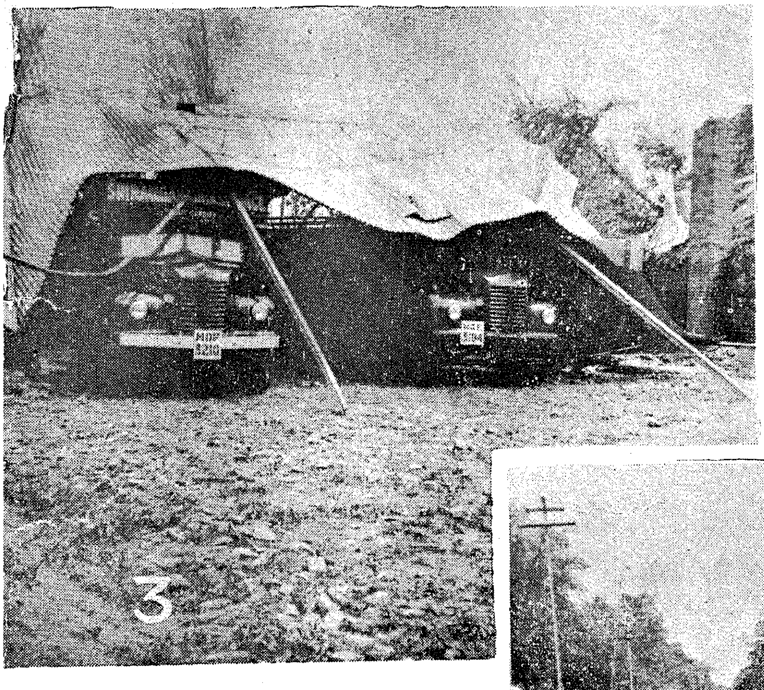
3. Members of the Estimates Committee.

Sri J. R. Mudholkar, Chairman of the Press Council of India, delivering the inaugural address at the 11th Annual Conference of the Madras Union of Journalists at Madras on 16th November 1966.

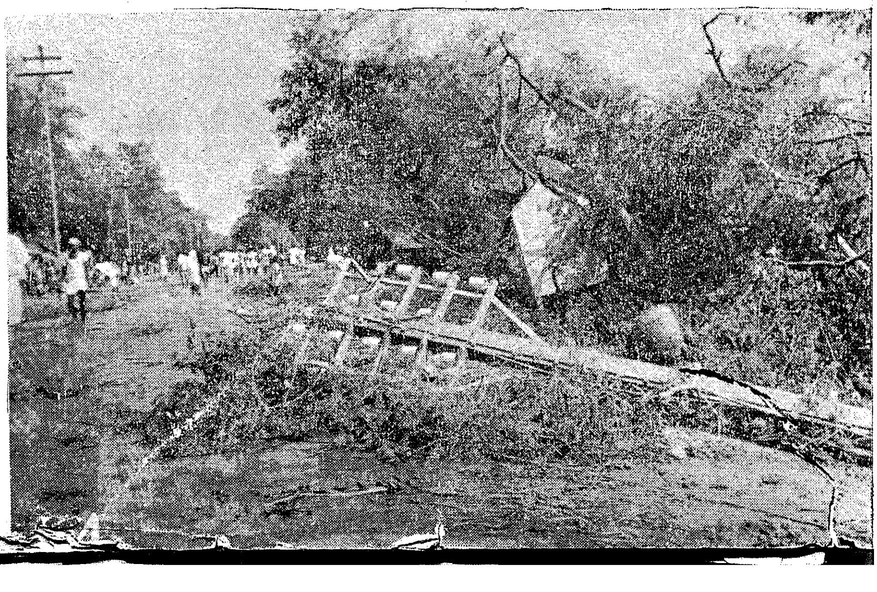


1. Sri M. Bhaktavatsalam, Chief Minister, visited the cyclone affected areas in Madras City on 4th November 1966. Picture shows the Chief Minister inspecting the fisheries residences in Mylapore.





2, 3 & 4. Recent cyclone caused great havoc in Tamilnad. As in other parts, in Gingee taluk houses and workshops collapsed and roads breached.



compounds mixed with crude oil and fish oil emulsion with resin added as an adhesive. Tobacco decoction was also known as a remedy against sucking insects.

A later development was the biological control of pests, the most noted instance being the campaign against the coconut leaf eating caterpillar *Nepthantes selenopa* by hymenopterous parasites and the extermination of the noxious prickly pear *Opuntia dillenii* by the cochineal insect.

It was not always easy in those days, to make farmers take easy control measures which were based on a knowledge of the life history and habits of the insects studied so laboriously and carefully by the Entomologist. Government legislation had to be sought in the form of Pests Acts as, when the cotton stem weevil *Pempheres affinis* and the hairy caterpillar *Amsacta* had to be tackled with the farmer's co-operation.

Today, very many chemical compounds have come into current use as insecticides. They are effective and successful, but great care and skill is required in using them and a lot of education has to be done before advocating their use.

Crop diseases

As far as diseases are concerned, the earlier methods chiefly against *anthracnose* and mildew in Grapevine, the bleeding disease and bud rot in palms and the *Mahali* disease on *areca* consisted in the use of Bordeaux mixture sufficiently early, as an advance precaution and in promotion of conditions like improving drainage, letting in sunshine into the fields, measures which are known to be unfavourable for the growth of fungi. Knowing that prevention is much better than cure, the Mycologist has always been advocating the pre-treatment of seeds and cuttings for vegetative propagation, the materials being sulphur, ceresan, agrosan and some other compounds.

A modern development is the breeding of disease resistant varieties and the Crop Breeder and the Mycologist have joined hands for this fruitful purpose. This has yielded better results than the earlier method of merely spraying fungicides. Instances of success in this field are the Blast resistant rice varieties and the rust resistant wheat. With virus appearing in the field, the problem has become a little more difficult than before but, even here the researchers proving their worth. Mosaic resistant varieties of sugarcane and other crops are now slowly replacing the old varieties and in fact, before releasing a new variety of sugarcane the sugarcane breeder makes sure of its resistance to mosaic. Very recently, a new visitor has arrived on the scene. He is the nematode who is carrying the war into the potato fields on the hills. His ravages have necessitated the appointment of a Nematologist who has started work to find ways of eradicating the menace. With the high standard of research associated with all the different branches of agricultural research, we may be confident that before long he will have added his valuable contribution to the achievements of this Department.

Very often the farmer does not follow all the methods suggested by the Department either because he is unable to do so or unwilling to adopt them. He requires a certain amount of catalytic action to make him bestir himself. The package programme was this catalyst. By giving him all the methods in a package, so to say Government are slowly helping him to change his practices. The object is to get an integrated benefit of all the advice and not only in one or two directions like irrigation and fertiliser application. The package programme was first tried in Thanjavur delta in Madras and on rice. Farmers were assured of supply of irrigation water, fertilisers and improved seeds. The departmental officers laid special attention to improved agronomic practices like drainage, weeding and inter-cultivation, and also took steps to control pests and diseases. In spite of some adverse comments on the scheme, the general consensus has been that the scheme has been successful and some of the mistakes committed in the first trials are surely capable of being rectified. Anyway, the scheme has been extended to other areas and other crops, the latest being the Package Scheme on extending banana cultivation in North Arcot district.

Land Colonisation Scheme

Poromboke lands have been made available by the Government, to farmers who wish to settle there for permanent agriculture. This is reported to be quite a success in Salem and North Arcot districts. In the latter district, there has been a sigfinicant increase in the use of underground water for irrigation. The number of pumpsets in the district which was 6,800 in 1958 is now 44,000 a seven fold increase. The scheme for utilising underground water by filter points in Thanjavur has been mentioned already.

The Government have also started a scheme for revitalising Farm Societies which have become dormant and defunct. In Madras, it is reported that there are 294 such societies under eight categories and stress is being laid on consolidating them. Simultaneously, more farming societies are envisaged in the Fourth Plan.

To bring about closer contact between farmers and agricultural workers, Government have initiated steps to have demonstrations organised by the crop breeders and other specialists in several branches, in the country, on the holdings of farmers, near their institutions. The minimum area for such demonstrations would be

one hectare and in the beginning, emphasis will be laid on high yielding strains and improved practices and restricted to cereals like rice, wheat, *jowar, cumbu, ragi* and hybrid maize. This decision follows the demonstrations held already with *Japanica-Indica* rice cross in Thanjavur, which is reported to be a phenomenal success.

Farmers in Chingleput district in Madras and in Rajamundry in Andhra, have formed what are known as target clubs. Each member agrees to adopt all technical measures as advised by the Department and produce maximum yield from an acre of land. The Chingleput farmers have fixed two tons of paddy per acre as their target and have enrolled themselves as members of the two-ton club. Rajamundry farmers with more favourable conditions of soil and climate have put a higher target and have formed three-ton clubs. The present average yield of paddy is less than one ton per acre. If every farmer reaches two tons and three tons targets, our troubles will be burried in the limbo of the memory of the past. The picture is really bright.

Research and farmer

These are some of the measures and many more can be quoted of the same kind. The Government is taking all steps to see that the results of research reach the farmers and are being followed by them in practice. In former days, it used to be one of the criticisms against the research sections of the Department, that while the work turned out by them was admittedly of a high quality, their methods were not being followed by the farmers and that there was a wide gap between research and practice. No longer is this criticism true. Not only the Government but the farmers have taken to improved methods everywhere, and there is a new epoch in agriculture which has arisen in India. The progress attained by the country's farmers and administrators has received praise from foreign visitors including a technical mission from the U.S.A. which recently visited India to correctly assess the results achieved. It was the good report of this mission that has induced the U.S. President Mr. Johnson to immediately order the shipment of 15 million tons after a talk with our Food Minister Sri C. Subramaniam. That we are proceeding on the correct lines is now an universally accepted fact.

There is adequate technical talent, administrators of vision to draw the necessary plans, and farmers are quite willing and eager to change their ways and take to scientific methods of farming. All the elements necessary for planned and successful development, are there. But our performance falls short of our expectations, and our food situation is giving us anxiety. Why is this so? Why is it, that we are not able to translate all our acknowledged potential into maximum utility? Let us be frank and forthright in our examination of the causes and in the measures we have to take for improving the situation.

The most important reason, and one to which all contributing factors can be traced, is, that our work and our efficiency is at a low level. We, as a nation, have developed a tendency to take things, easy, and do not bring in that amount of application which a plan for agricultural development requires and deserves at every stage. Against this background of laziness and inertia, has grown a tradition of complacency, which makes us assert that sufficient unto the day is the work thereof, when the question that we must honestly put to ourselves should be 'Is this all that I can do'.

Red-tapism in administration had led again to a combination of circumstances, where a technical expert specially engaged for the execution of technical programme is unable, or finds it impossible to pay personal attention to all the *details* of the programme. He diverts his natural talents to administration, loses himself in the coils of red-tape, with the result that the original plan lacks the personal drive of the expert. Many of our well conceived schemes, the Community Projects the Package Scheme, the Scheme for the Intensive Cultivation of Vegetables in home gardens and many others would have produced much more startling results, than they have produced, but for this administrative red-tapism, which has been responsible for causing bottlenecks and delays in the execution of admittedly sound plans. Red-tapism may be all right and even necessary in other walks of life, but so far as agriculture and agricultural production is concerned, it is not only unnecessary, but even a hindrance to progress. Let us realise that agriculture is done on the field and not at the office table.

Present situation

Our present situation is also due to the fact that we have woken up rather late. The schemes and plans we are putting into operation today, should have been initiated fifteen or twenty years ago. Rome was not built in a day, nor can agricultural miracle be brought overnight. A sense of urgency, and fits of impatience to attain quick results, has led to disappointment and a mood of pessimism, which has further damped our will to work and makes it slipshod. The remedy is not submission in despair but a redoubled effort to meet the challenge, created by the lapses of a previous generation and by our own fault-our inherent desire to escape work.

Low efficiency of work, administrative red-tapism, too many holidays, a late start particularly with our irrigation projects with a consequential dependence on the monsoon, and an increasing population to control

which, measures are being thought of only now. These have been the contributing factors for our present situation. It is surprising that in spite of these we have been making progress since we attained independence nearly eighteen years ago. An impartial examination of data during this period indicates *how much more* can be done, if we only make a determined resolve to shed our complexes and resolve to put in more hours of work for the nation. The following table will illustrate this :—

Year.	Production of cereals in million tons.		Area under cereals in million acres.		Percentage increase in area and production (cereals) every three years from 1947–48.	
	Production.	*Percentage increase over 1947 figure.*	*Area.*	*Percentage increase over 1947 figure.*	*Area increase.*	*Production increase.*
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1947–48	43·7	..	172	..	..	..
1948–49	43·3	..	186	..	..	..
1949–50	46·0	5	195	13	13	5
1950–51	41·7	..	193	..	..	..
1951–52	42·9	..	193	..	..	..
1952–53	49·2	12	203	18	18	12
1953–54	58·3	..	215	..	..	..
1954–55	56·2	..	212	..	..	..
1955–56	54·9	25	215	24	24	25
1956–57	57·3	..	215	..	..	..
1957–58	53·9	..	214	..	..	..
1958–59	63·2	42	223	29	29	42
1959–60	63·2	..	222	..	..	..
1960–61	66·8	50	222	29	29	50

A look at this table reveals some interesting points. During the first few years after independence, there has not been much increase in area or in production. And the increase in production is much less than what the increase in area should warrent. For example, the increases in area in 1949–50 and in 1952–53 were 13 and 18 per cent, but the increases in production were only 5 and 12 per cent. From 1955–56, there is an upward trend in production, the percentage increase in production being nearly double the percentage increase in area. This is because, it was only after that, what is termed as scientific methods of farming have been followed. Irrigation, where facilities exist, fertiliser application, the use of improved seeds and the control of pests and diseases have slowly come into vogue in agriculture. In a sense, we are now in a stage of transition from the old methods to modern ways of farming. Our acre yields of rice are slowly improving. For example, the average yield per acre of cleaned rice, during the years 1947 to 1954, was only 692 pounds, but during the next seven years it rose to 820 pounds. Today it is near 900 pounds per acre for the whole of India. Among the individual States, Kerala, Mysore, Madras and Bengal all produced over 1,000 pounds per acre on average during 1960–61, and in 1964–65 the figures are still higher for these States. This is not much when we remember countries like Spain and Japan which produce over 2,500 pounds per acre, but the figures indicate that the present crisis is only a temporary one and need not cause undue alarm. With farmers inaugurating 2–ton and 3–ton Target Clubs, our 222 million acres under cereals would easily produce in the course of the next five years, over 100 million tons, if not more.

Some of our difficulties are due to defects in distribution and the consequent non-availability of food grains, chiefly rice. So far as production is concerned, there does not seem to be any difficulty. For example, if we take the figures of population and production for 1960–61, we had a total production of 67 million tons of grains as seen in Table 11 :—

TABLE 11.

Production of cereals, in million tons 1960–61.

Cereal.	*Production.*	*Percentage to total.*
(1)	(2)	(3)
Rice	33·7	50·0
Wheat	10·6	16·0
Jowar	9·1	14·0
Maize	3·9	6·0
Bajra	3·1	4·5
Ragi	1·6	2·5
Small Millets	2·0	3·0
Barley	2·7	4·0
Total ..	66·7	

It may be noted that the production of rice is exactly half of that of the total cereals. If this is divided equally among the population (440 Millions in 1961), each individual will get 169 pounds of rice, 54 pounds of wheat, and 112 pounds of other cereals per year making a total of 333 pounds of cereals ratio. This is quite adequate, considering that not all the 440 millions are eating cereals, since there will be at least 20 per cent of children who will not require a full cereal quota.

Since 1960–'61 our production has gone on increasing and two years ago our production touched the 80 million mark. During 1966, about 76 million of tons are estimated to be produced. During the last four years, our population has also been increasing, but there is no cause for alarm, because we can manage to get on very well if *every one takes one half rice and the other half* as other cereals in his ration, the proportion in which they are produced. But every one wants his pound of flesh and insists on rice being supplied. This creates a marginal deficit in our production of *rice* ; there will be no problem if our food habits follow the pattern of our crop production, one half rice and one half other cereals. It is true that our food habits have changed during the last few years, but the change has been in the direction of changing over to rice in place of other cereals. We must switch over in the other direction so that other cereals also find a place in our diet as they did several years ago, at least among the rural population

Marginal deficit

It is this marginal deficit of rice production that creates all the difficulties for us. Confused thinking about food production and food distribution is produced. While production plans may reach the targets, defective distribution may lead to a shortage in certain localities and to a scare all round. Unsocial elements, small and big hoarders, self centred individuals, who by tradition and custom and a desire to show off will waste food rather than make it available to others who need it, all add their quota in creating this shortage. These small hoarders or wasters, are unaware of the damage they are causing to the national interest. They are not hoarding actually but keeping by a certain amount, against a rainy day, frightened by rumours of a shortfall in *production*. How much they can contribute to the general scare can be illustrated by a simple calculation. Suppose every one of the 440 and odd millions of our population keeps by only 15 *pounds of rice per year*, the total so kept out of circulation will amount to 3 million tons, which is 7 to 8 per cent of our production, an amount sufficient to magnify the deficit already existing.

Further, while the overall production for the whole country may be an encouraging picture, certain States of deficit production and some deficit districts in surplus States, create pockets of shortage, which worsen the situation, because it is in these pockets that distribution becomes more difficult. This will be evident by a reference to Table 12, which shows how much of cereals available to every individual *if the demand is to be met only from the production within* the State. It will be seen that three States, Bengal, Orissa and Kerala, are entirely rice growing areas only, while other States produce other cereals also like wheat, *bajra*, maize, *jowar* and *ragi*. These States, therefore, are able to make up their quota, of nearly 300 pounds of cereal per year, from the production with in the State itself. Of the States which produce only rice, Bengal with 345 and Orissa with 477 pounds of rice per individual per year, are not in need of other cereals for increasing their ration. But Kerala, with only 129 pounds per head and with no other cereals produce within the State, (although it produces over 1,500 million tons of tapioca, which is 80 per cent of India's production) requires another 200 pounds of rice or other cereals, to make up its need on a *level with other States*. It is here that the problem becomes acute and raises its ugly head. For, a wrong and defective distribution of cereals in this State is likely to engender a psychological feeling that discrimination is made.

TABLE 12.—*Cereals available in pounds, per head, per year from production within States.*

State.	*Rice.*	*Wheat.*	*Other cereals.*	*Total cereals.*	*Remarks. Other cereals grown.*
(1)	(2)	(3)	(4)	(5)	(6)
Andhra	224	..	158	382	*Jowar*, Millets.
Assam	300	..	..	300	Wheat, a little millets.
Bihar	230	21	58	309	Wheat, Millets.
Gujarat	160	30	128	318	Wheat, Millets.
Kashmir	128	54	128	312	Wheat, Millets.
Kerala	129	..	..	129	Only Rice.
Madhya Pradesh	238	14	168	420	Wheat, Millets.
Madras	240	..	107	347	Millets, a little wheat.
Maharashtra	75	132	270	477	Only Rice.
Mysore	112	8	142	262	Millets (*Ragi*).
Orissa	477	..	..	477	Only Rice.
Punjab	44	268	121	433	Wheat, Millets.
Rajasthan	6	104	230	340	Wheat, Millets.
Uttar Pradesh	89	110	103	102	Wheat, Millets, Barley.
W. Bengal	345	..	..	..	Rice only, a little Maize.
INDIA	173	44	112	339	

TABLE 13.

Yield in Pounds per acre of Rice (Cleaned) and Density of Population in the various States 1960–61.

State.	Yield in pounds per acre.	Density of Population per square mile.
Andhra	1,143	339
Assam	851	155
Bihar	771	691
Gujarat	469	286
Kashmir	999	49
Kerala	1,238	1,127
Madras	1,344	629
Madhya Pradesh	747	189
Mysore	1,092	318
Maharashtra	930	333
Orissa	667	292
Punjab	882	430
Rajasthan	586	153
Uttar Pradesh	665	649
W. Bengal..	1,056	1,032
INDIA	890	..

Orissa, with 477 pounds of rice per head, gets the highest place in the allotment of rice although its acre yield is low, only 880 pounds, Kerala gets the lowest figure of 129 pounds although its acre yield is quite high, —nearly 1,238 pounds per acre of cleaned rice. It is a deficit State because of its high density of population, 1,127, nearly *four* times that of Orissa, while its acre yield is only 40 per cent more than that of Orissa. What is the remedy ?

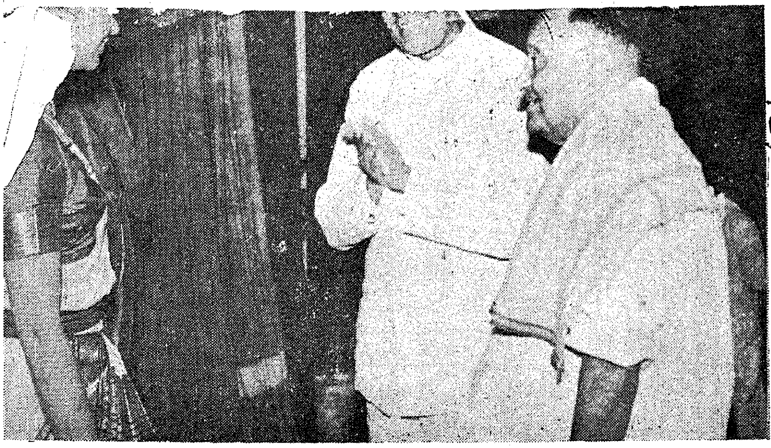
On the lines of the dream of the ONE WORLD, with the several countries as components thereof, the other surplus States in India have rushed supplies to Kerala, even as U.S.A. rushed to India. Once again, redtapism is causing delay and bottlenecks and suggestions made for meeting the situation are only temporary. But, these are enough to cause cries of distress and create pockets of disaffection and protest. What is worse, a fear that the situation in Kerala may spread even to other surplus States, makes those States extra cautious in their allotments, and people begin to take their own measures of self preservation, with the creation of more fields for the operation of unsocial elements.

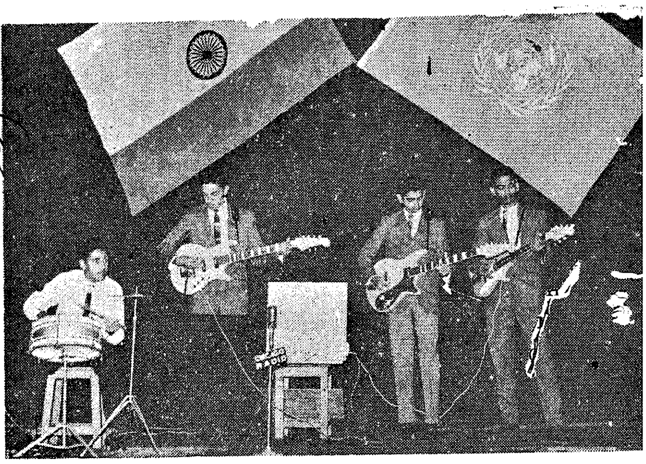
It is heartening to note that people in other surplus States like Madras and Andhra are tightening their belts and rushing supplies to Kerala, and this, in spite of the fact that they are themselves on the margin. Several voluntary organisations have started 'Save Rice for Kerala' campaigns in other States. This has created feeling of *oneness among Indian citizens,* that we view the Food Problem as a National and not as an individual concern, a good training to make us world citizens. After all, the arrangements we are making will be for a temporary period, say, for three or four years at the most. Our big irrigation projects, which are all national concern and our production programmes will all begin to bear fruit by then and we will become a surplus country. Meanwhile, let us not allow *faulty methods of distribution.*—in which redtapism again plays a leading role— hamper and impede and delay our programmes of *increasing agricultural production* which is well within our reach. Let not our attention be diverted by temporary occurrences.

Change in food habit

Recently, our Food Minister, Sri C. Subramaniam mentioned while addressing a meeting in Calcutta that 87 million acres remained uncultivated during 1964–65, due to various causes, chief among which was the failure of rains. We can expect laziness or unwillingness to work also as another cause. Whatever it is, such factors will cease to exist, once the irrigation projects and other schemes for supplying water are made available. If Sri C. Subramaniam's statement is correct, it means that twenty-five per cent of our cultivated areas remained uncultivated in 1964-'65. That would also mean that 75 per cent of area had to meet the full demand of not only the 1963 population but the increase during the year. Our estimate under such conditions, that we will produce only 76 million tons in 1965–'66, need not discourage us in our efforts and resolves.

While the total cereal production may give us some satisfaction, it is the rice situation that is giving us more anxiety, for, it is this cereal which is in greater demand. Once again, the remedy will be to change our food habits and slowly develop a taste for other cereals like maize and *ragi.* This is not impossible, because, several years ago, wheat was not so common in South India as it was in the North, but today wheat and wheat preparations have become quite popular in Southern States. In the same way, all of us must make *sorghum, ragi, cumbu* and maize preparations common in all households, with a switch over on particular days of the week to the new introductions. Apart from the Government, social service organisations can do a lot of propaganda and effect changes in this matter.





U.N. DAY CELEBRATION

The United Nations Day was celebrated at the Children's Theatre, Madras, on 24th October 1966. (1) Sri R. Venkataraman, Minister for Industries is chatting with Miss Annegreve of Canada who took part in the variety entertainment on the occasion. (2) A scene from the Variety Entertainment. The Governer Sardar Uijjil Singh, who presided is presenting the Rolling Shield to R. B. Kalavalakannan Chetty High School, Madras, which sent the best team for the Tamil Essay Competition (3), Stella Mary's College, which sent the best team for the English Essay Competition (4), Ethiraj College, which sent the best team for the English Elocution Competition (5) and Lady Wellington High School, which sent the best team for the Tamil Elocution Competition (6).

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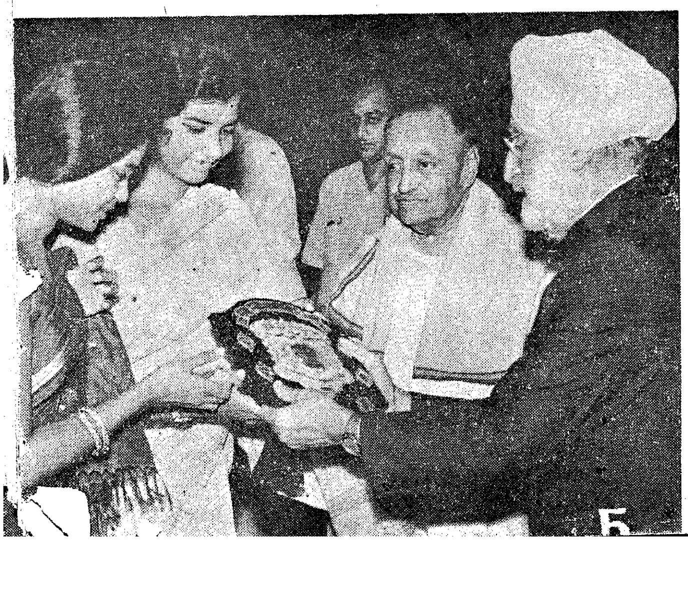

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small scale industries IN MADRAS STATE

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Before 1960, there were very few small entrepreneurs in the State of Madras. Between 1st April 1960 and 31st March 1966, 9,125 entrepreneurs have registered themselves as small industrialists. This is only a fraction of the total number of small entrepreneurs. There are probably two to three times as many entrepreneurs, who are unregistered in this State.

This development has arisen as a result of the active encouragement and the enlightened support that has been provided by the Government of Madras. In the first place, the Minister for Industries and the various officers of the Industries Department had actively associated themselves with the entrepreneurs' ideas and their aspirations. By way of loans, in quantitative terms, it cannot be said that very much has been disbursed. Approximately Rs. 2 crores has been disbursed in State Aid to loans. These loans have a ceiling of rupees one lakh and are hedged in by an act and various rules. By way of imported raw materials during the last 3 years the licences given to all the small units amount to a little less than rupees two crores. Assistance by way of allocation of units in the Industrial Estates amounts to 364 units. Judged against this quantum of assistance what the small industrialists have been able to achieve on their own is very substantial.

State assistance

A certain amount of assistance was provided by securing quota certificate for iron and steel for about a thousand units. Even here as Iron and Steel is being gradually de-controlled, the units have started acquiring iron and steel through the normal trade channels.

Judged in this context the effort put up by the entrepreneur and the achievements made by them deserve every praise.

The motivations that have gone into individual entrepreneurs setting up units are wide and varied. A certain percentage of them are qualified technicians, who have gone into business on their own and a large proportion of them have shown surprising initiative, appreciable success and astonishing results. In the Industrial Estates out of the 364 units occupied by entrepreneurs, 245 units are owned and run by technically qualified men. All these qualified men would in an earlier era have gone in search of a job. Several of them are doing very well in small industry.

The second type of motivation arises in the case of those who have sons or relatives who are qualified and for whom they have wanted to set up manufacturing units. Precise statistics are not readily available. But this has been a very really powerful motivation and several units have been set up in this way.

The motivation

The third kind of motivation comes from small traders who were depending upon import licences and sale of spare parts. As the foreign exchange situation grew gradually grim they have made use of their knowledge of the trade and have put up their own manufacturing units.

The fourth type of motivation arises from the talented businessmen who are confident of making a new product with their own resources. Here the difficulties of foreign exchange and the ban on imports have encouraged them into establishing new lines of technology with confidence in their ability in the fields in which they were interested.

In industrial circles in India there have often been complaints that competent and qualified men have started industries, which were later taken over by professional financiers and milked mercilessly, with the result that the persons who started the industry were generally left in the lurch. As far as this State is concerned and as far as small industries are concerned, this has been a very rare phenomenon.

During the last decade of development, competent observers who have studied the process of growth have been able to pinpoint the weaknesses in this system. All these weaknesses arise as a result of inherent disadvantages and handicaps that small industrialists have.

Perhaps, the first weakness is want of adequate finance. In spite of the Hire Purchase Scheme organised by the National Small Industries Corporation, State-Aid Loans, bank loans for Working Capital and Medium Term bank loans for the purchase of machinery, the average small industrialist is chronically short of working funds. He is unable to handle large orders that will give him both a good margin of profit and sufficient resources for ploughing into the business. Accepting such orders are beyond their capacity and means, because the margins insisted upon by the Banks are beyond their capacity to meet. The system of financing for small industries has to be thought out afresh and unless we adopt some kind of an unorthodox system of financing such as lending on slender margins, adjusting the interest rates to provide a cushion for bad debts, the development of small industries will not be as rapid in the next decade as in the present one. A more enlightened financial policy is yet to be hammered out and implemented. This is of basic importance and ther development closely hings on this.

all entrepreneur

Text books of history often emphasise the fact that bulwark of a nation and the class that resists revolutionary changes is the middle class. In the old days this used to be the class of farmers. In the changing condition of India the small entrepreneur is the new and the industrial version of the middle class. If we give him adequate assistance for development, we should be doing a world of good for the economy and will moreover contribute to encouraging a stabilising force in the country. This is a lesson that we have yet to learn.

The second inherent weakness in small industry is the fact that it militates against marketing operations on a scale that would be appropriate. The origin of small industry was the artisan who made up products in his cottage and sold it in his village or the next town. We have gone a step further; the small industrialist has a factory, has a few machines and produces his product or a component or renders his service. In a large industry with a large turnover 2 per cent or 3 per cent of the turnover is generally set apart for advertisement, publicity, etc. Any where between 10 and 25 per cent is set apart for selling expenses. The small industrialist [illegible] to absorb this kind and size of overhead. Some attempts have been made in the Government to provide marketing assistance. It is still the entrepreneurs' most important head-ache to open up a market to secure orders and to sell his products. The right kind of marketing for small industries is difficult to postulate or project. It requires co-operation from the Government from the buyers, from the large manufacturers who feed the small industry with orders and the small industrialists themselves banding themselves together for their common or mutual good. More investigation and more thinking have necessarily to go into this aspect of small industry and unless this hurdle is crossed, this will constitute a serious impediment to the development of small industry in this country.

The third important inherent difficulty is that essentially the small industry is a "one-man-show". The industrialist is his own Administrator, Finance Expert, Shop Manager, Sales Manager, Labour Officer and intermediary with Governmental organisation.

Infact, a good proportion of his time is spent in the waiting rooms of various important people such as buyers, sellers of raw materials, Municipal Officials, Government Officials, etc., just to keep the wheels of his industry in motion. Now it could be argued that no man can be an expert in all these aspects of management work. The fact, however, remains that a large number of industrialists have gathered experience in these various aspects of their work. Some of them are extremely competent. The small industrialist learns his management on the same principle, as the man who wants to learn swimming and gets into deep water; after gulping a few mouthfuls of water he learns to float; similarly the industrialist after making a few mistakes and incurring a few losses learns to survive. Some method of imparting the knowledge of scientific management will enable the small industrialist to develop these abilities quickly. If the industrialist's time and energy now spent on the trivial of management is cut down and he is allowed to spend more time on production and technology he would benefit vastly; so would the country.

At the cross roads

In advanced countries there are Consultancy Houses who would be of assistance to industrialists for solving their various problems. Here not many consultants are available and even the few who are available, are beyond the reach of the purse of the small industrialists. The development of consultancy service, if necessary on a subsidised basis in the early stages, would help the growth of small industry in no small measure.

It would, therefore, be correct to say that small industries have reached the cross roads. The industrialists have so far developed in their own way. Their success is due to their genius and dedication to the task. Their achievements have been substantial. Further development depends very much on the kind of assistance they can get. It was an old notion that when a man was in business he was making profit and out of this profit he should finance and pay for his growth. This approach has got to be changed. The small industria-lists have reached a stage where some kind of extern

PROGRESS with ECONOMY

The Budget for 1966-67 was presented by Sri M. Bhaktavatsalam, Chief Minister, who also holds the portfolio of Finance, to the State Legislature on 26-2-66. The budget estimated the revenue receipts at Rs. 188·72 crores and expenditure at Rs. 188·41 crores leaving a surplus of Rs. 31 lakhs.

There are no new taxes. Steps to effect economy and efficiency in administration, free books for children and accent on food are the other salient features of the Budget.

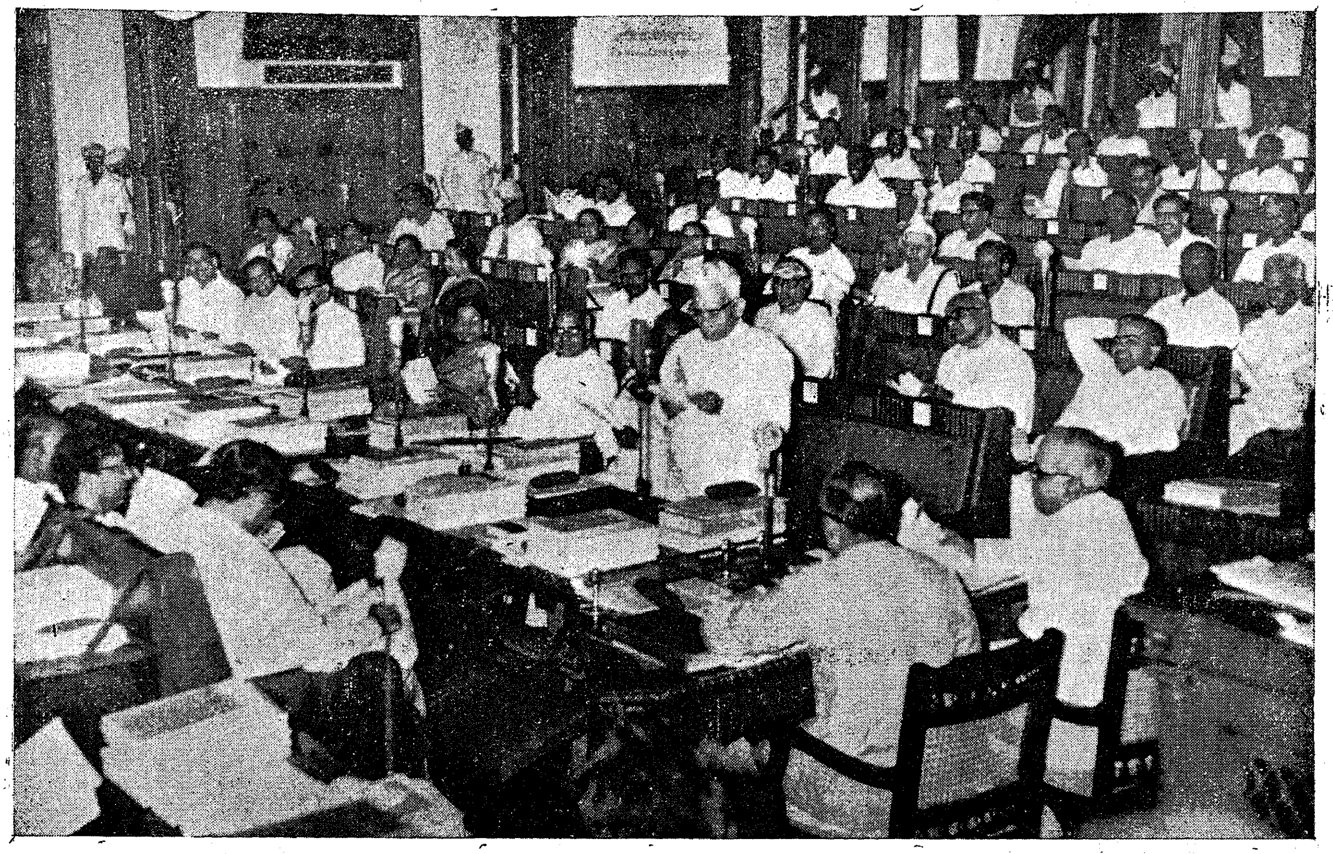
The revised estimates for the current year mark the climax of our efforts on the Third Plan, while the budget estimates for the next year heralding the Fourth Plan reflect in some measure the reordering of priorities which the recent developments in our economy have rendered necessary. The outlay on the Third Plan will now be over 341 crores, representing an increase of more than seventeen per cent over the sum of Rs. 291 crores initially programmed. We should also remember that this outlay of Rs. 341 crores is exclusive of Rs. 3·88 crores incurred under what are compendiously called crash programmes relating to agricultural production and allied schemes. As planning is a continuous process, we have also initiated advance action on a few of the important projects of the Fourth Plan such as the Ennore Thermal Plant. The outlay on such advance action programmes aggregating to Rs. 1·46 crores, is not also included in the figure of Rs. 341 crores. Taking these also into account, the outlay on developmental programmes will be about 347 crores.

Agriculture

It is the achievement in the agricultural sector next year, will be of crucial significance in setting the tone for the Fourth Plan. It is through stepping up agricultural production that we can hope to bring about an improvement in the standards of consumption of the common people and also hold the prices in check. The Fourth Plan, with its vast foreign exchange commitment, will depend for its success on vigorous promotion of exports. This again will depend upon the extent to which we are able to keep prices and costs down and thus make our industries competitive. Next year's Plan therefore seeks to provide resources and inputs sufficient to ensure an additional production potential of at least four and a half lakh tonnes of foodgrains.

Master Plans for the comprehensive development of the seed farms have been prepared and have been taken up for implementation according to a phased programme. Though the working of these farms cannot be adjudged purely in terms of profit and loss it should be a matter for gratification that in 1964–65, 52 farms have shown a profit and only 22 had incurred loss, the overall profit being Rs. 1·14 lakhs.

The most heartening development in our seed multiplication programme has been the cultivation in over five thousand acres, in the last kuruvai season in the Thanjavur Delta, of the high-yielding hybrid Japanica-Indica paddy strain ADT. 27. Over these five thousand acres, this strain has given an average yield of 3,840 lb. of paddy per acre, as against the normal kuruvai yield of 2,400 lb. of paddy per acre. About 5,000 tonnes of seed of this variety have been procured this year



Sri M. Bhaktavatsalam, Chief Minister, is presenting the Budget for 1966–67 to the Legislative Assembly on 26th February 1966

to cover two lakhs of acres in the next kuruvai season in Thanjavur, besides nearly sixty thousand acres in other districts. It is estimated that the average yield, with normal seasonal conditions, will be not less than 3,500 lb. of paddy per acre and that this will contribute to a considerable increase in rice production.

Two other hybrid paddy cultures now under field trial, culture 2,701 in Thanjavur district and culture 2,410 in Chingleput and North Arcot districts are also expected to give good results. It is also proposed to organise trials in the Navarai season with Taichung Native 1, a variety of paddy claimed to be capable of yielding over three tonnes of paddy per acre. If the results of these trials which will be known by July 1966, bear out this claim, a sizable area will be brought under cultivation of this variety in 1966–67 itself. Trials are also being undertaken with two other similar exotic varieties Taichung 65 and Tainan 3 to assess their suitability for large-scale cultivation in this State.

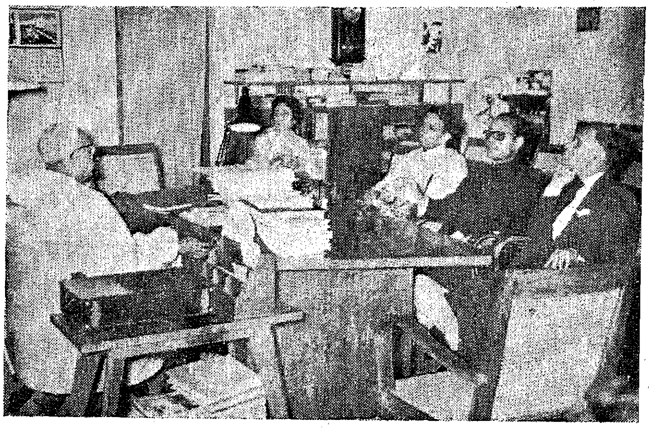
Fertiliser

The full potential of these improved strains can be realised only with an assured supply of chemical fertilisers. The loan assistance secured recently from the United States specifically for the import of fertilisers and the commitment given by Government of India to allocate larger foreign exchange from their own resources for such imports should help to step up the availability of fertilisers significantly in the next season. The State Government, on their part, will keep under constant review the arrangements for distribution of available supplies.

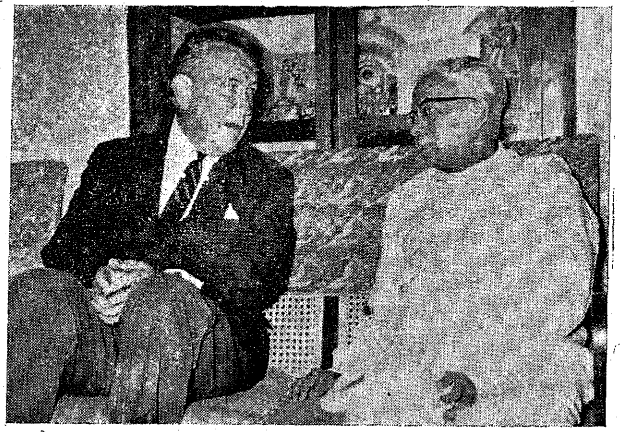
Government are aware that chemical fertilisers give the best results in judicious combination with organic manures. Our programmes for propagation of green manures and development of local manurial resources will therefore be implemented with unabated vigour.

Minor irrigation

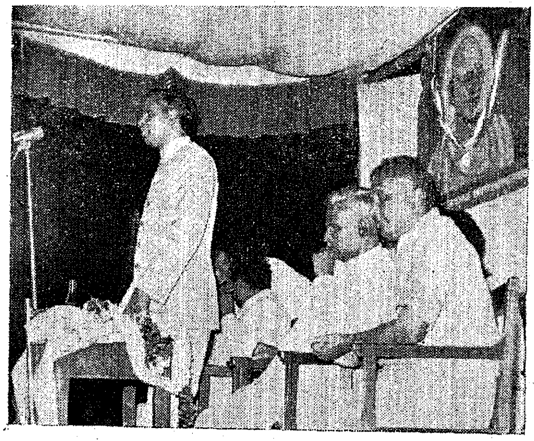
Against an original budget estimate of Rs. 405 lakhs for various minor irrigation programmes, the Revised Estimate for 1965–66 visualise an expenditure of Rs. 730 lakhs, towards which Government of India have also sanctioned additional asistance of Rs. 2 crores. With a provision of about Rs. 862 lakhs in next year's budget estimates, inclusive of the loan provision of nearly Rs. 1 crore under Community Development, it will be possible to maintain the tempo of execution of these quick-yielding schemes. We are laying emphasis on sinking of wells in areas commanded by major irrigation systems so that more than one irrigated crop may be successfully raised.



The Members of the Committee on Broadcasting and Information Media met the Officers of **the** State Government and the Chief Minister of Madras which **visited Madras on 5th February 1966.** The members of the Committee are discussing with the Chief Minister at his Chambers.



Mr. **Chester** Bowles, American Ambassador in India who was on a visit to the City recently called on Sri M. Bhaktavatsalam, Chief Minister, at his residence and had an Informal talk with him.



Sri G. Bhuvarahan, Information **Minister is** addressing the gathering at the Harijan Welfare Week Celebrations.

The International Leather Fair organised by the Indian Leather Fair Society and the Central Leather Reasearch Institute was inaugurated by Sri K. Kamaraj, President, All India Congress Committee on 31st January 1966, at the Central Leather Institute Grounds, Adyar, Madras. Sri M. Bhaktavatsalam, Chief Minister inaugurated the Refresher course for Extension workers on the occasion. Picture shows the fashion parade held in this connection displaying the various fashions in Leather jackets, gloves, foot-wear, etc.

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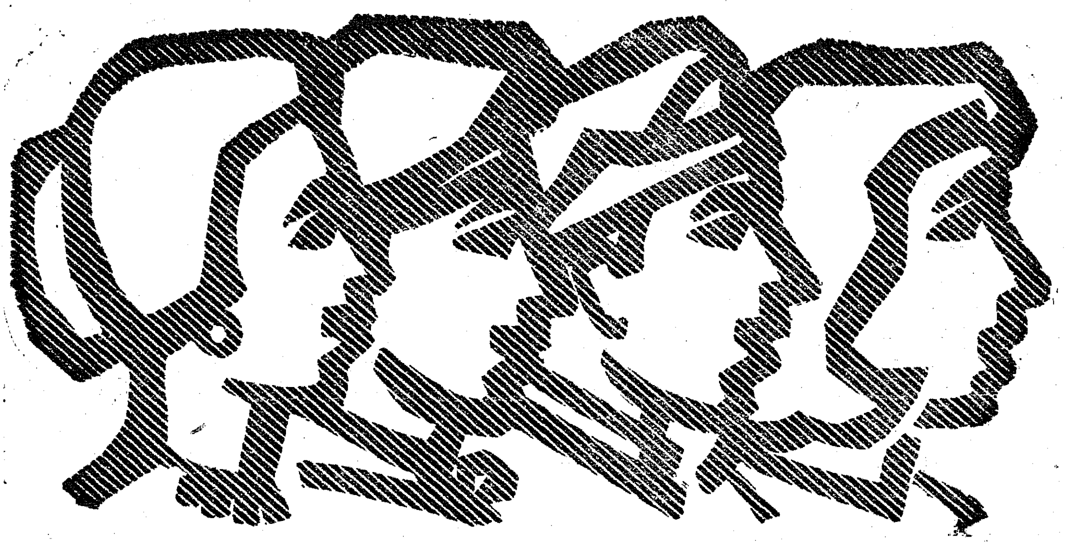

We are proud of our students. They know the country is passing through trying times, and have been quick to do their share. They are in the National Cadet Corps, volunteering to give blood, working in civil defence and helping to raise funds. And all this without neglecting their studies, because they know the nation needs their skills. Yes, our students are serving the nation! Are you?

ONE GREAT COUNTRY ONE GREAT PEOPLE

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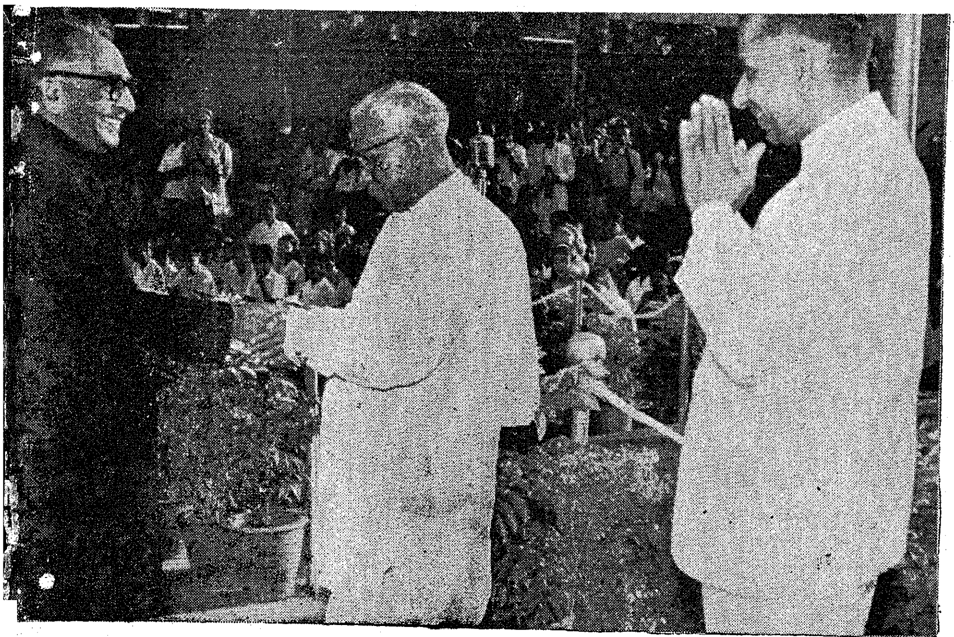
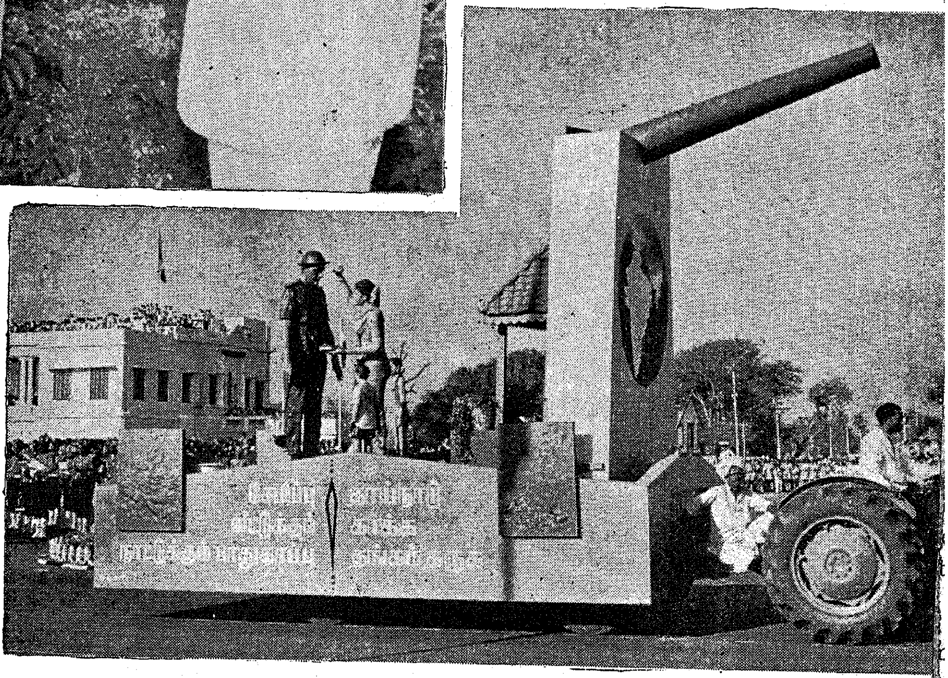
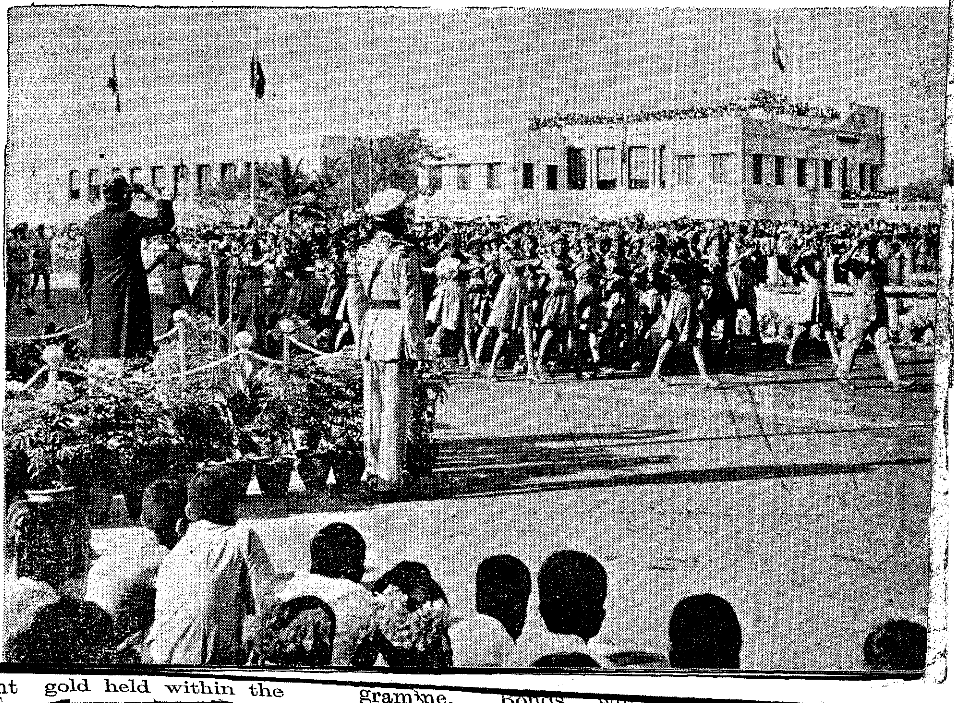
lisers and the commitment given by Government of crop may be successfully raised.



Republic day PAGEANT





Above : Sri M. Bhaktavatsalam, Chief Minister, is receiving the Governor. Sri C. A. Ramakrishnan, I.C.S., Chief Secretary (with folded hands), is also in the picture.

Top right : One of the Tableau which participated in the pageant.

Right : The Governor is taking the salute.

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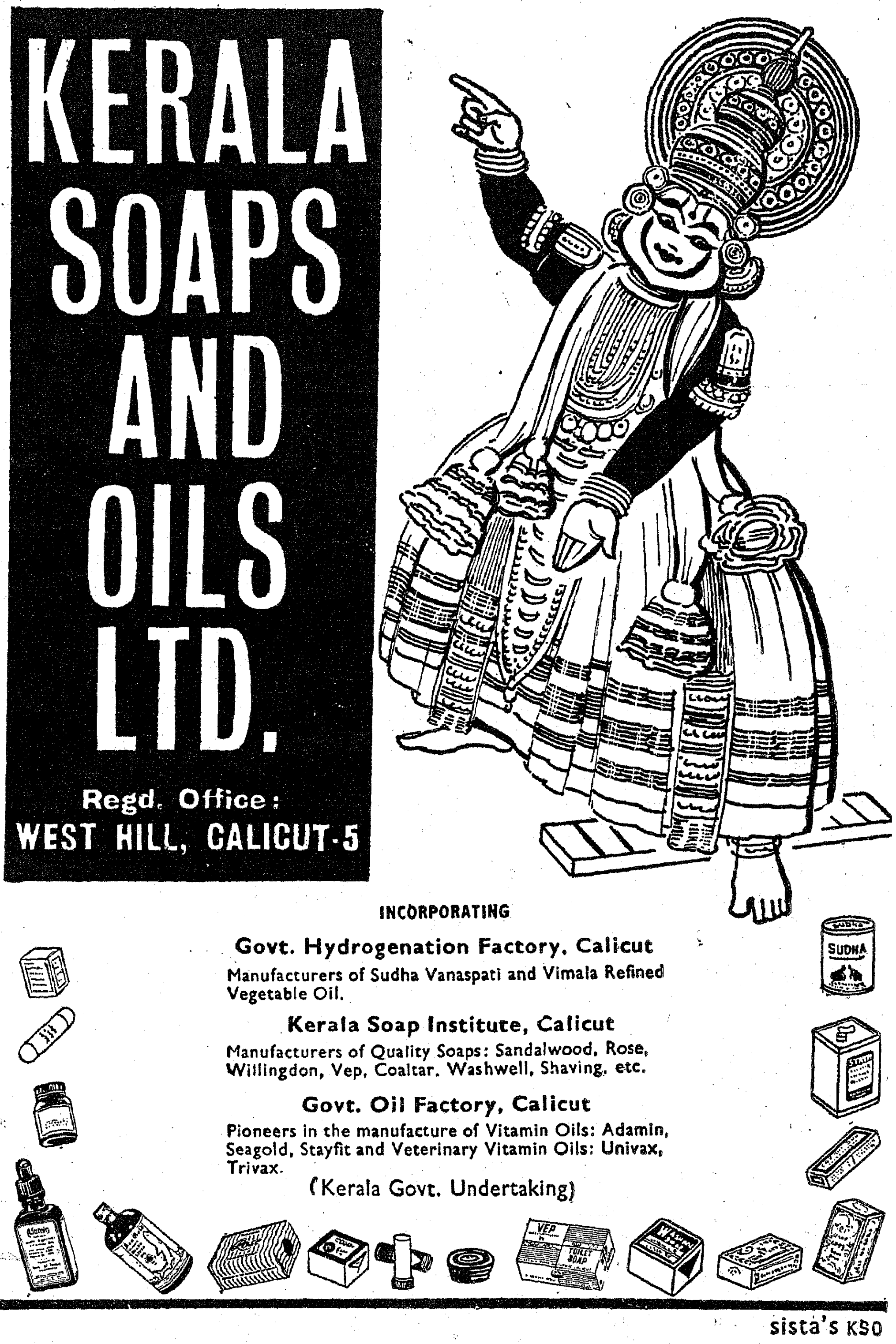

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